KORSCH America Inc.
12 K World's Fair Drive
Somerset, NJ 08873
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Main Fax: (732) 563-9499
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September 6, 2000

Dockets Management Branch (HFA-305)
Food and Drug Administration
5630 Fishers Lane, rm. 1061
Rockville, MD 20852
Public Docket #95D-0349

RE: Request for Listing of KORSCH Tablet Presses in SUPAC IR/MR Equipment Addendum

Dear Sir and Madam,

Regarding the section of your web page with tablet press information, I would like to have KORSCH added to your list of tablet press manufacturers – and anywhere else where tablet presses are mentioned. Please see the attached information (2 copies) regarding KORSCH and our line of tablet presses.

If there are any questions, or you need additional information, please do not hesitate to contact me.

Best Regards,

Laurie Heritage
Sales Administrative Assistant
KORSCH America Inc.

Enclosures

cc: Nancy Sager

LAURIE HERITAGE
SALES ADMINISTRATIVE ASSISTANT

KORSCH America Inc.
12K World's Fair Drive
Somerset, N.J. 08873
Tel. (732) 563-4222
Fax (732) 563-9499
E-mail: laurie.heritage@korschamerica.com

Subsidiary of:
KORSCH PRESSEN AG
Berlin, Germany

95D-0349 C19

Subsidiary of:
KORSCH PRESSEN AG
Breitenbachstr 1, 13509 Berlin
Germany

Laurie Conover

From: Laurie Heritage <laurie.heritage@korschamerica.com>
To: Nancy Sager 301-594-5633 FAX 301-827-2772 <SAGERN@cder.fda.gov>
Sent: Thursday, September 28, 2000 9:03 AM
Subject: Re: Tablet Press information

Dear Ms. Sager,

When we send information to customers, we mark it confidential so that they don't show it to our competitors. I apologize for the confusion, and I apologize for not getting back to you sooner. I just returned today from vacation. The information I sent you can be shared outside the FDA.

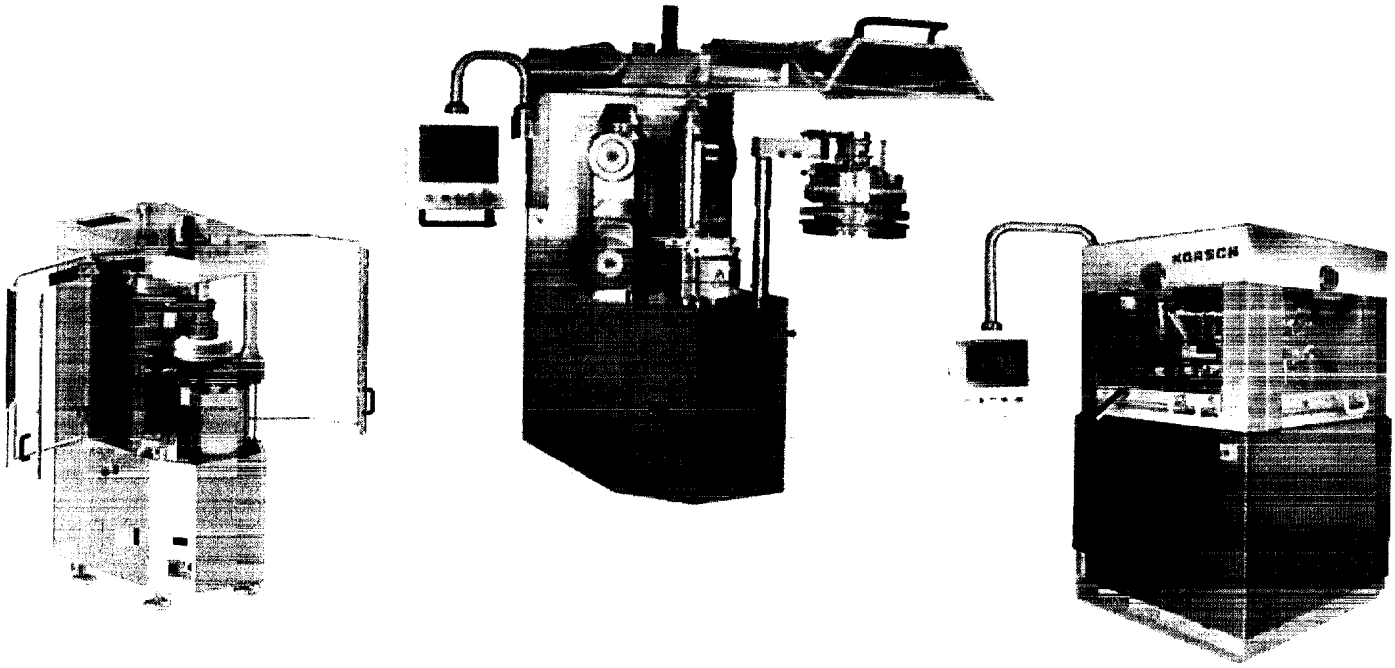
If there are any additional questions, please do not hesitate to contact me.

Best Regards,
Laurie Heritage

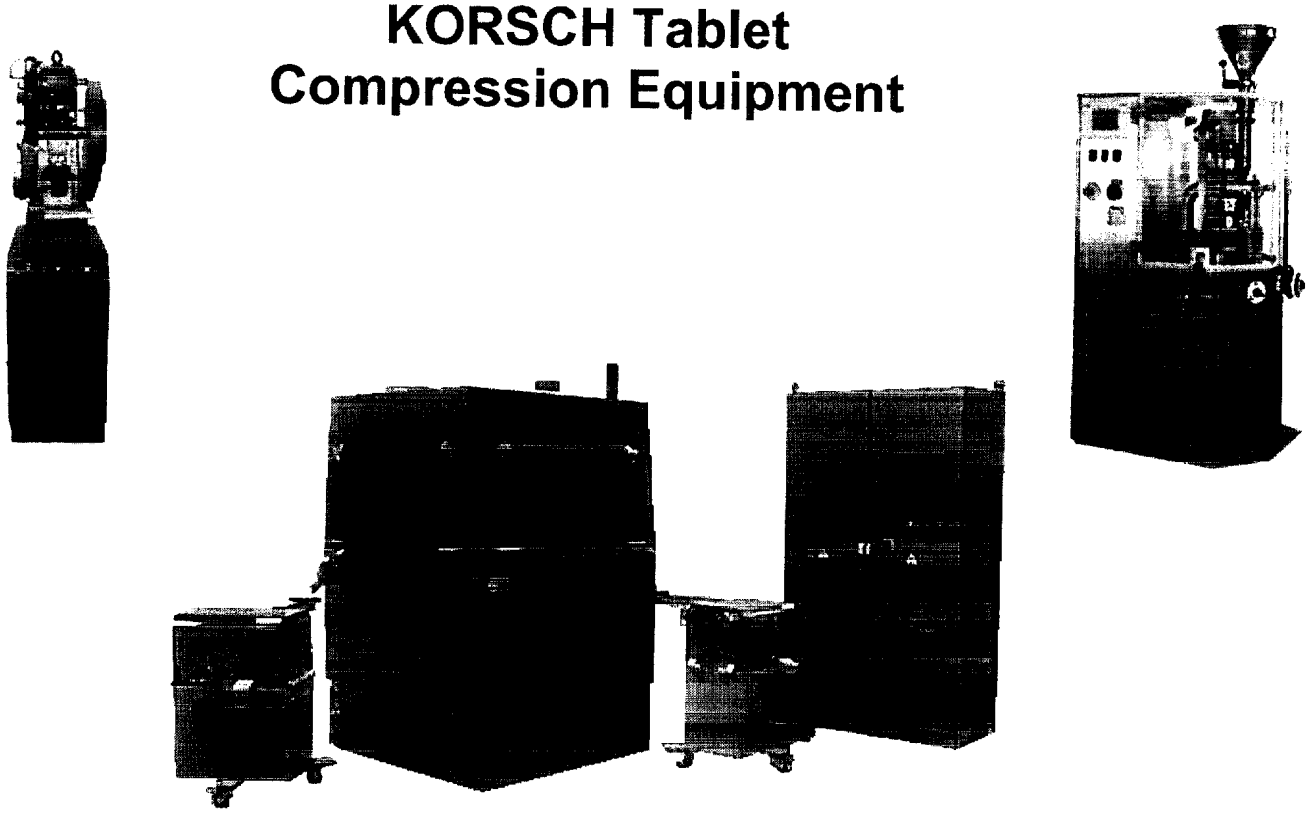
----- Original Message -----
From: Nancy Sager 301-594-5633 FAX 301-827-2772 <SAGERN@cder.fda.gov>
To: <laurie.heritage@korschamerica.com>
Sent: Wednesday, September 20, 2000 1:37 PM
Subject: Tablet Press information

> Dear Ms. Heritage,
>
> I received the additional information in the mail. Thank you. The
> Korsch Tablet Compression Equipment booklet is marked confidential. I
> just wanted to confirm that this can be shared outside FDA (we work with
> the International Society of Pharmaceutical Engineers (ISPE) to evaluate
> equipment).
>
> Thanks,
> Nancy Sager
>
>

KORSCH



KORSCH Tablet Compression Equipment



CONFIDENTIAL

KORSCH

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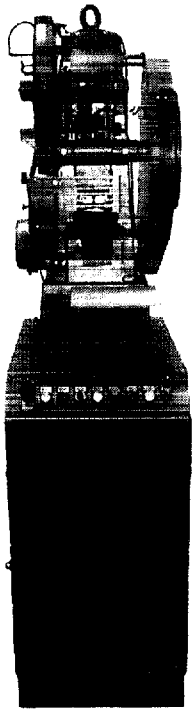
KORSCH

EK-0 Tablet Press



The KORSCH EK-0 Research Tablet Press is a single punch machine that is specifically designed to permit initial feasibility, screening, and solid product characterization. The EK-0 permits very small material quantities to be utilized and characterized very quickly and with a minimum of set-up and cleaning time. The EK-0 offers a proven, rugged design, which insures precision operation over the long term. The EK-0 may be utilized on a bench top or it may be equipped with an optional stainless steel mounting base. Press tools for the EK-0 are a KORSCH standard and are available from KORSCH PRESSEN or from a local press tool supplier. The complete tool set consists of an upper punch, lower punch, die, and dust cup for the lower punch.

The KORSCH EK-0 may be fully instrumented to permit complete data collection and analysis. The EK-0 is fully equipped for use with the KORSCH PMA-3, which provides a comprehensive, Windows-based data collection and analysis program to facilitate product characterization and optimization.

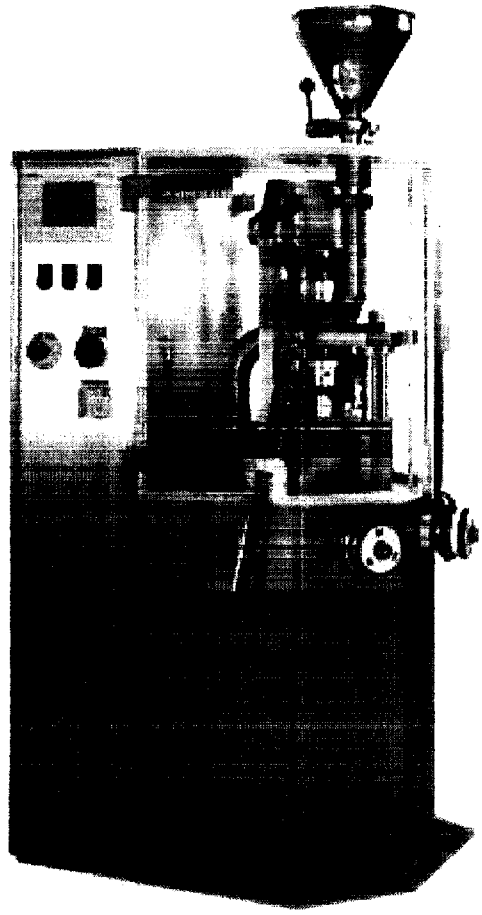
EK-0 Specifications

Maximum Press Force	*30 kN*
Maximum Tablet Diameter	*20 mm*
Maximum Filling Depth	*20 mm*
Press Speed Range	*10-60 RPM*
Main Power	*220 VAC, 3 phase*
Motor Output	*0.37 KW*
Net Weight	*150 kg*
Dimensions	*530 x 970 x 1030 mm*

KORSCH

XL100 Tablet Press

The KORSCH XL100 completes the R&D entry of the innovative KORSCH XL-Series. The XL100 is the ideal rotary press for formulation development and small batch production. The XL100 offers a new standard in GMP, extreme accessibility to the compression zone, an exchangeable turret for maximum flexibility, and a combination of quick-disconnects and smooth surfaces that permit fast cleaning and changeover. The machine is extremely robust and rugged, offering a precompression capability of 15 kN, and a main compression capability of 60 kN, contained in a unique structural design that eliminates vibration to the head piece and base frame. The exchangeable turret capability provides ultimate flexibility in a development press.



The XL100 may be fully instrumented for the measurement of precompression force, main compression force, and ejection force (segmented cam), to permit product development parameters to be evaluated and stored.

In addition to the instrumentation package, the XL100 may be equipped with a press force control system for automatic tablet weight control, and single tablet rejection based on individual press forces.

KORSCH

XL100 Specifications

DESCRIPTION	XL100/12	XL100/10	XL100/8
Tool Spec	BB	B	D
Number of Punch Stations	12	10	8
Max Compression Force (kN)	60	60	60
Max Precompression Force (kN)	15	15	15
Max Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	16	16	16
Max Tablet Height (mm)	8	8	8
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	20-120	20-120	20-60
Max Output (tablets/min)	1,440	1,200	480
Pitch Circle Diameter (mm)	118	118	118
Filling Cams (mm)	0-6 4-10 10-16	0-6 4-10 10-16	0-6 4-10 10-16
Machine Height (mm)	1.584	1.584	1.584
Dimensions L x W (mm)	818 x 665	818 x 665	818 x 665
Net Weight (kg)	530	530	530

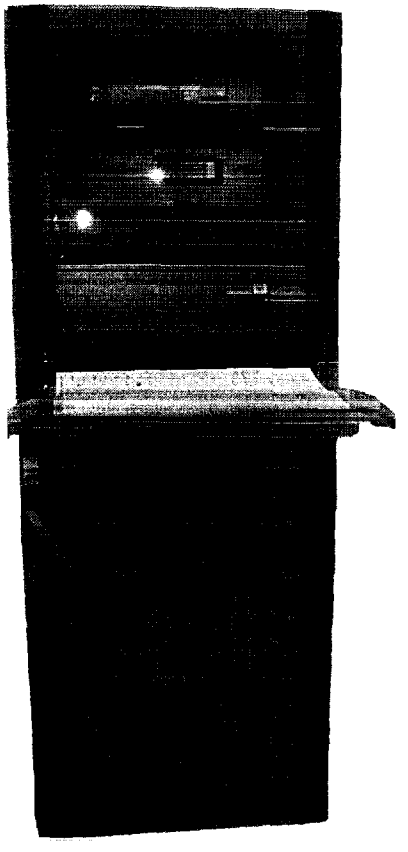
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

PMA-3 Data Acquisition System

The KORSCH PMA-3 is a Windows based Data Acquisition System that has been design to complement the full line of KORSCH equipment for product development and scale-up. The PMA-3 is configured in a 19" rack tower and includes an industrial PC, monitor, printer, high-speed A/D card, and computer interfaced amplifiers. The PMA-3 software features a simple, user-friendly screen environment, and the data generated by the PMA-3 may be exported to other Windows applications in a standard EXCEL format.



The PMA-3 offers a data collection module that provides a real-time display of press force and punch displacement parameters, including actual waveforms and digital values. With the machine running, the PMA-3 will display the maximum compression force, maximum ejection force, and maximum upper punch displacement (EK-0 only) to permit a clear understanding of the compression properties.

The PMA-3 offers a comprehensive data analysis capability to permit individual compression events to be evaluated. The PMA-3 will calculate force peaks, area under the force-time curve, compression contact time, rate of force application, and rate of force decay. The system permits a punch station by punch station analysis, and a full statistical summary of each data set.

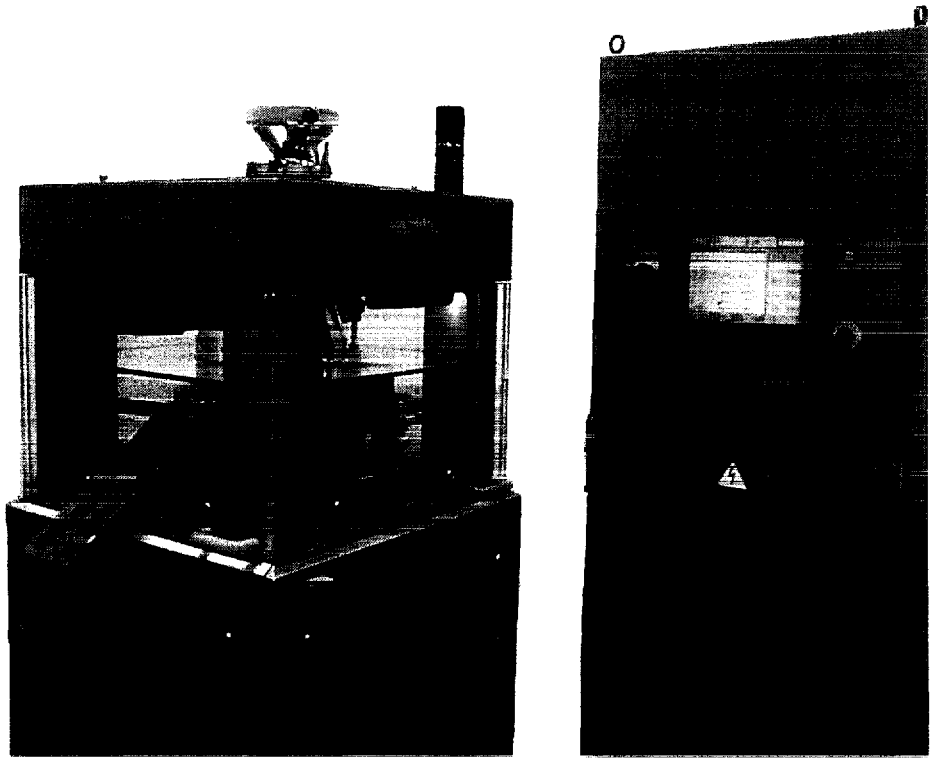
For clinical batch production, the PMA-3 offers a press force trending and storage capability to permit average force values to be retained during the course of an extended run. In addition, process limits can be introduced to notify the user in the event that the compression or ejection force exceeds a preset value.

The PMA-3 has a multi-machine capability, and can be used to collect and correlate data from multiple KORSCH machines. A set-up file permits the PMA-3 to be configured for a number of different machines, to permit a consistent methodology and data format for all product development, scale-up, and clinical production efforts.

KORSCH

PH250 Tablet Press

The KORSCH PH250 offers a high-speed capability to permit product scale-up or small-scale batch production. The PH250 may be fully instrumented to permit the analysis of precompression force, main compression force, and tablet ejection force, and these parameters can be recorded for correlation with production scale equipment. The PH250 offers a CLEAN COMPRESSION AREA, which is free from electrical sensors, and the compression zone is completely isolated. The PH250 is equipped with an ALLEN BRADLEY or SIEMENS PLC based control system for machine, and press force control. The control system is located in a remote control cabinet, which requires only minimal space in the compression room. The isolated compression zone, and the extensive use of quick disconnects, insures the fastest cleaning and changeover times. The PH250 offers a complete PRODUCT RECIPE capability, and offers an electronic audit trail capability to track machine adjustments and faults over the course of the batch. The PH250 may be configured in a fully automated configuration to permit unattended operation.



KORSCH

PH250 Specifications

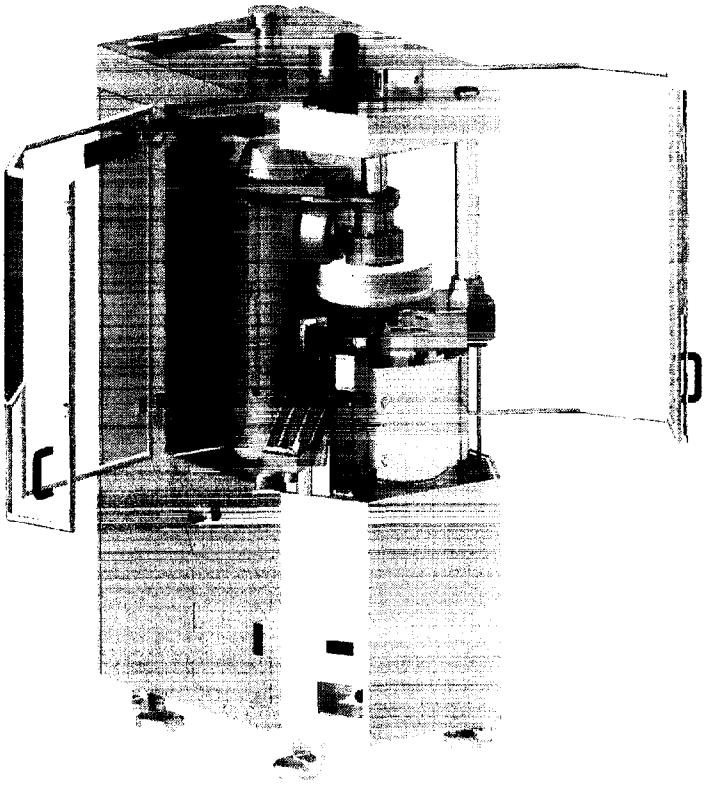
DESCRIPTION	PH250/30	PH250/25	PH250/16	PH250/14
Tool Spec	BB	B	B	D
Number of Punch Stations	30	25	16	14
Max Compression Force (kN)	80	80	80	80
Max Precompression Force (kN)	20	20	20	20
Max. Tablet Diameter (mm)	13	16	16	25
Max Filling Depth (mm)	18	18	18	22
Max Tablet Height (mm)	8.5	8.5	8.5	11
Insertion Depth (mm)	2-6	2-6	2-6	2-6
Turret Speed (RPM)	5-120	5-120	5-120	5-90
Max Output (tablets/min)	3,840	3,000	1,920	1,260
Pitch Circle Diameter (mm)	285	285	285	285
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	1,743	1,743	1,743	1,743
Dimensions (mm)	830x1,190	830x1,190	830x1,190	830x1,190
Net Weight (kg)	1,650	1,650	1,650	1,650

Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

XL200 Tablet Press



The KORSCH XL200 is the optimal machine for product scale-up, clinical batch production, and small-scale batch production. The XL200 offers the patented and proven design features of the XL400 machine – and provides an extreme degree of flexibility and capability in a scale-up machine. The XL200 features an exchangeable turret to permit the scale-up and production of every product size on a single machine. The machine is extremely robust and rugged, offering a precompression capability of 40 kN, and a main compression capability of 80 kN, contained in a unique structural design that eliminates vibration to the head piece and base frame.

The XL200 may be fully instrumented for the measurement of precompression force, main compression force, and ejection force (segmented cam), to permit product development parameters to be evaluated and stored. The XL200 is offered with a comprehensive control system, which includes product recipe, press force control, single tablet rejection, and the ability to integrate to a tablet weight, or weight-thickness-hardness sampling unit. In addition the system can be configured with an electronic audit trail to track all machine adjustments, faults, and process parameters, during clinical batch production.

KORSCH

XL200 Specifications

DESCRIPTION	XL200/30	XL200/25	XL200/20
Tool Spec	BB	B	D
Number of Punch Stations	30	25	20
Max Compression Force (kN)	80	80	80
Max Precompression Force (kN)	40	40	40
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	18	18	22
Max Tablet Height (mm)	8.5	8.5	8.5
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	5-120	5-120	5-80
Max Output (tablets/min)	3,600	3,000	1,600
Pitch Circle Diameter (mm)	285	285	285
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	1,977	1,977	1,977
Dimensions L x W (mm)	1,200x790	1,200x790	1,200x790
Net Weight (kg)	2,600	2,600	2,600

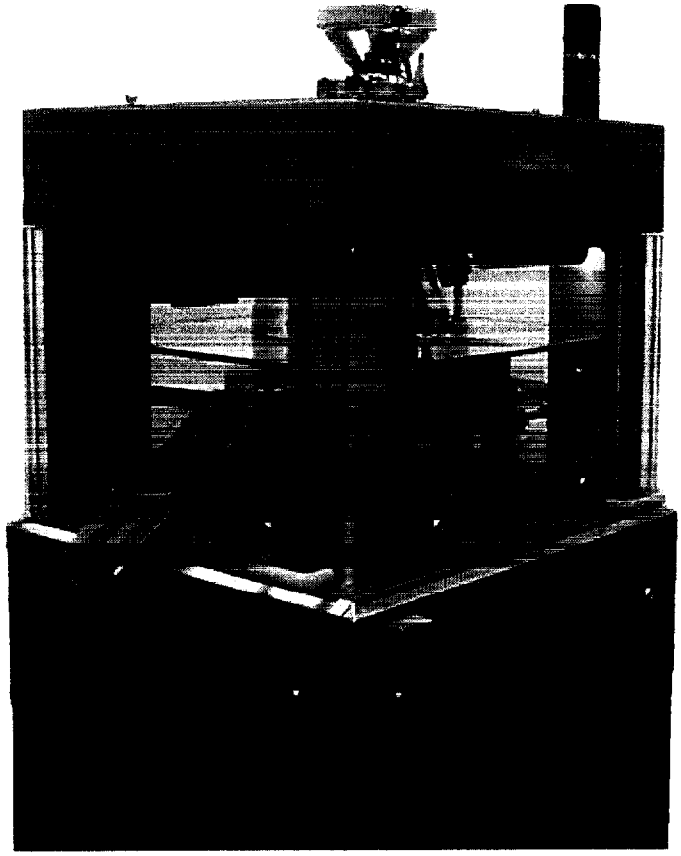
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

PH300 Tablet Press

The KORSCH PH300 is high-speed, single-sided tablet press, which offers a rugged and proven design, with precise tablet weight control, with minimal cleaning and changeover times. The PH300 offers a CLEAN COMPRESSION AREA that is free from electrical sensors, and the compression zone is completely isolated. The PH300 is equipped with an ALLEN BRADLEY or SIEMENS PLC based control system for machine, and press force control. The control system is located in a remote control cabinet, which requires only minimal space in or outside of the compression room. The PH300 is equipped with a specially designed cam track, which utilizes a composite cam material, which requires only minimal lubrication. The result is a faster, quieter machine, with no risk of oil contamination at the die table, even long periods of continuous operation. The PH300 offers a complete PRODUCT RECIPE capability, and offers an electronic audit trail capability to track machine adjustments and faults over the course of the batch. The PH300 may be configured in a fully automated configuration to permit unattended operation.



KORSCH

PH300 Specifications

DESCRIPTION	PH300/43	PH300/36	PH300/29
Tool Spec	BB	B	D
Number of Punch Stations	43	36	29
Max Compression Force (kN)	80	80	80
Max Precompression Force (kN)	20	20	20
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	18	18	22
Max Tablet Height (mm)	8.5	8.5	11
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	5-116	5-116	5-80
Max Output (tablets/min)	5,000	4,190	2,320
Pitch Circle Diameter (mm)	410	410	410
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	1,832	1,832	1,832
Dimensions (mm)	960x1,350	960x1,350	960x1,350
Net Weight (kg)	2,400	2,400	2,400

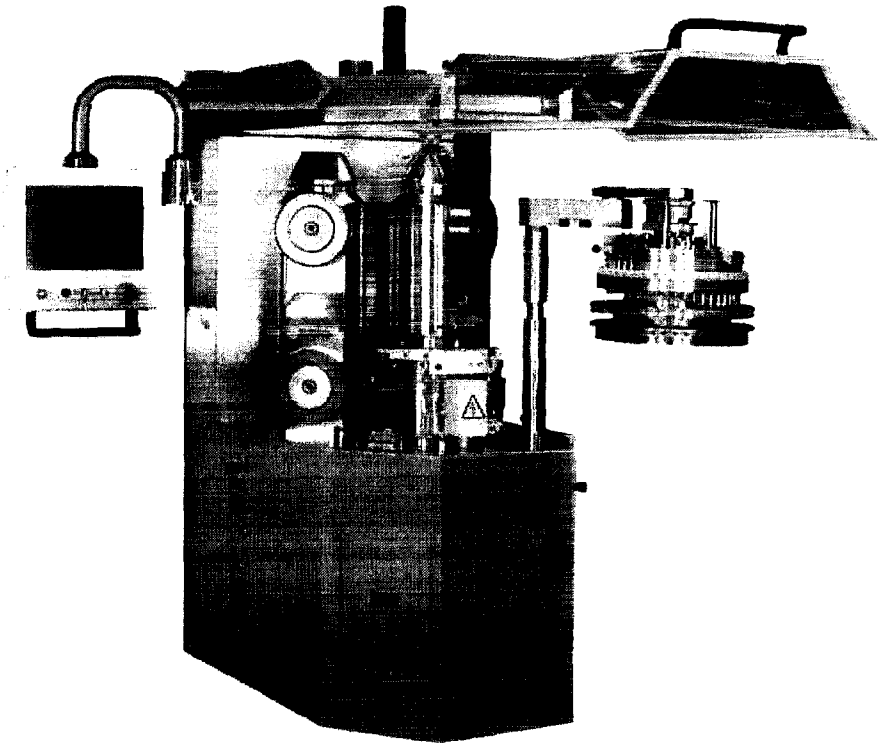
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

XL400 Tablet Press

The KORSCH XL400 is an innovative machine that offers a new standard in GMP, extreme accessibility to the compression zone, and a combination of quick-disconnects and smooth surfaces that permit fast cleaning and changeover. The machine is extremely robust and rugged, offering 100 kN precompression and 100 kN main compression, and a unique structural design that eliminates vibration to the head piece and base frame. In addition, the XL400 features a *removable turret* capability to permit a single machine to run all press tool sizes, to provide maximum flexibility and versatility. The XL400 offers a control system platform featuring the ALLEN BRADLEY or SIEMENS PLC, in a simple, reliable, and user-friendly environment. The XL400 can be easily interfaced to a centralized SCADA (supervisory control and data acquisition) system for remote monitoring and production batch management.



XL400 Specifications

DESCRIPTION	XL400/44	XL400/35	XL400/29
Tool Spec	BB	B	D
Number of Punch Stations	44	35	29
Max Compression Force (kN)	100	100	100
Max Precompression Force (kN)	100	100	100
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	18	18	22
Max Tablet Height (mm)	8.5	8.5	8.5
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	5-120	5-120	5-80
Max Output (tablets/min)	5,280	4,200	2,320
Pitch Circle Diameter (mm)	410	410	410
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	2,153	2,153	2,153
Dimensions (mm)	946x1595	946x1595	946x1595
Net Weight (kg)	3,700	3,700	3,700

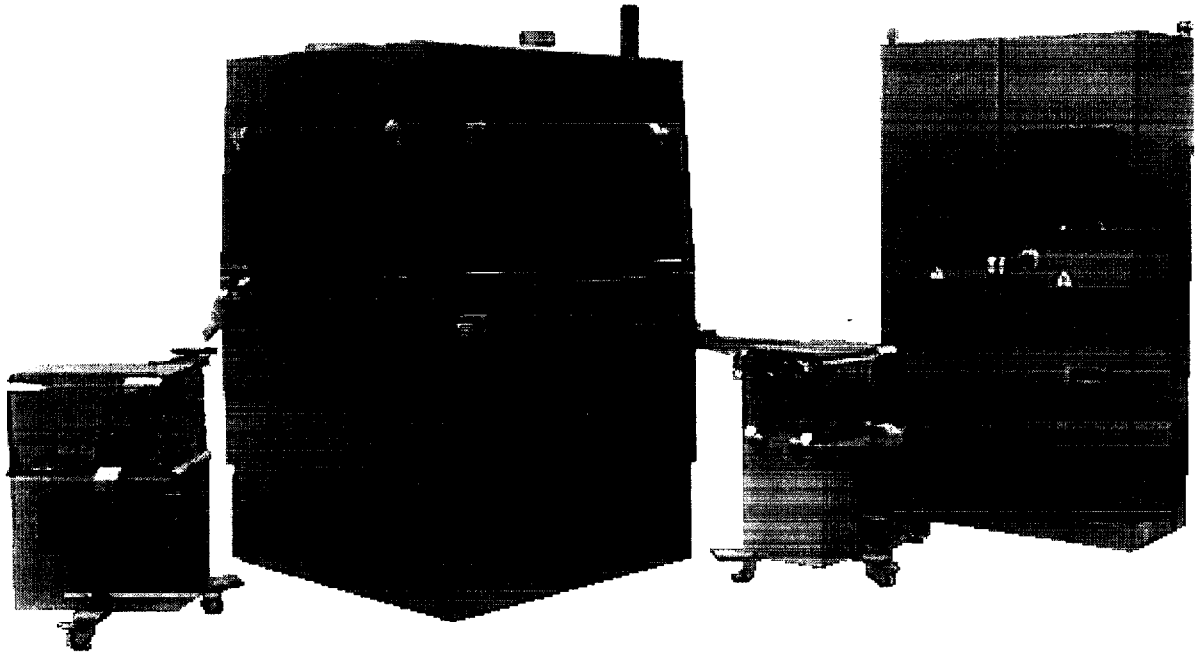
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

PH800 Tablet Press

The KORSCH PH800 is a double-sided tablet press, offering the highest tablet output, and the longest run durations. Designed for high volume production, the PH800 offers a rugged and proven design, with precise tablet weight control, and minimal cleaning and changeover times. The PH800 is equipped with an ALLEN BRADLEY or SIEMENS PLC based control system for machine, and press force control. The control system is located in a remote control cabinet, which requires only minimal space in or outside the compression room. The PH800 offers a complete PRODUCT RECIPE capability, and offers an electronic audit trail capability to track machine adjustments and faults over the course of the batch. The PH800 may be configured in a fully automated configuration to permit unattended operation.



KORSCH

PH800 Specifications

DESCRIPTION	PH800/77	PH800/65	PH800/53
Tool Spec	BB	B	D
Number of Punch Stations	77	65	53
Max Compression Force (kN)	80	80	80
Max Precompression Force (kN)	20	20	20/80
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	18	18	22
Max Tablet Height (mm)	8.5	8.5	11
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	5-120	5-120	5-80
Max Output (tablets/min)	16,670	14,070	8,480
Pitch Circle Diameter (mm)	740	740	740
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	2,040	2,040	2,040
Dimensions (mm)	1,320x1,320	1,320x1,320	1,320x1,320
Net Weight (kg)	4,000	4,000	4,000

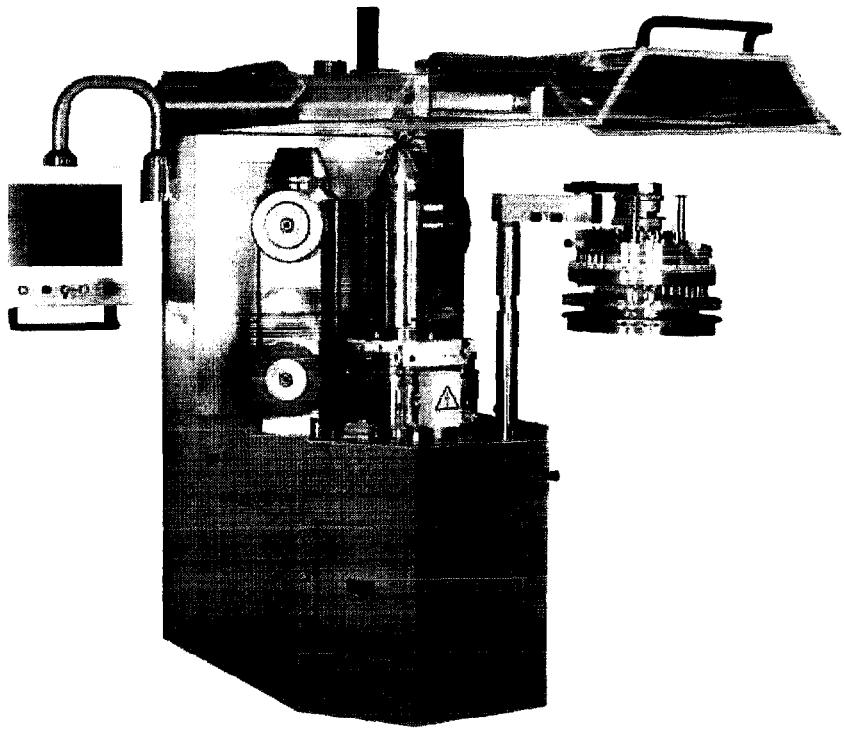
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

XL400 Bi-Layer Tablet Press

The proven XL400 Tablet Press is now available in a bi-layer configuration. In combination with an exchangeable turret and single layer conversion kit, this machine offers unprecedented versatility for bi-layer development and production. The XL400 Bi-Layer Tablet press can be configured for both bi-layer and single layer production, with any turret size - and with a reduced tools capability, this machines offers an extreme advantage for small-scale bi-layer product development. The machine is extremely robust and rugged, offering a 5 kN tamping capability and 100 kN main compression, and a unique structural design that eliminates vibration to the head piece and base frame. In addition, the XL400 features a *removable turret* capability to permit a single machine to run all press tool sizes, to provide maximum flexibility and versatility. The XL400 offers a control system platform featuring the ALLEN BRADLEY or SIEMENS PLC, in a simple, reliable, and user-friendly environment. The XL400 can be easily interfaced to a centralized SCADA (supervisory control and data acquisition) system for remote monitoring and production batch management.



KORSCH

XL400 Bi-Layer Specifications

DESCRIPTION	XL400/44	XL400/35	XL400/29
Tool Spec	BB	B	D
Number of Punch Stations	44	35	29
Max Compression Force (kN)	100	100	100
Max Precompression Force (kN)	5	5	5
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm) First Layer	18	18	22
Max Filling Depth (mm) Second Layer	10	10	10
Max Tablet Height (mm)	8.5	8.5	8.5
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM) First Layer	5-120	5-120	5-80
Turret Speed (RPM) Second Layer	5-50	5-50	5-50
Max Output (tablets/min) First Layer	5,280	4,200	2,320
Max Output (tablets/min) Second Layer	2,200	1,750	1,450
Pitch Circle Diameter (mm)	410	410	410
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	2,153	2,153	2,153
Dimensions (mm)	1,595x946	1,595x946	1,595x946
Net Weight (kg)	3,700	3,700	3,700

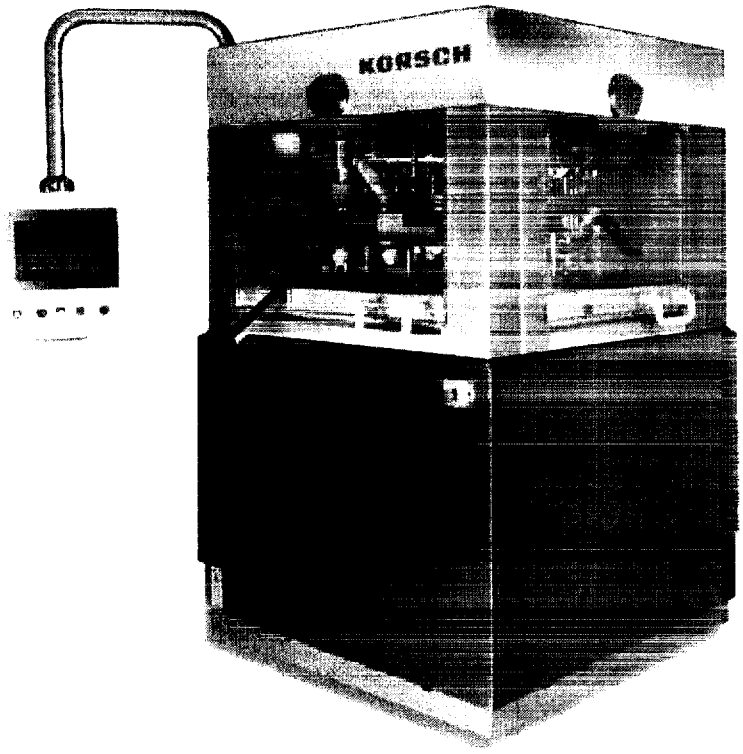
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

TRP700 Tablet Press

The KORSCH TRP700 is a high speed, bi-layer or tri-layer tablet press, which is specifically intended for materials that require deep filling depth and insertion depth capability. The TRP700 has been extremely effective in the production of these type of products, and offers a rugged and proven design, with precise layer weight control, and minimal cleaning and changeover times. The TRP700 offers a GMP COMPRESSION AREA, and the compression zone is completely isolated from the lower cam section, and lower mechanical section. The TRP700 is equipped with an ALLEN BRADLEY or SIEMENS PLC based control system for machine control. The TRP700 may be equipped with a press force control system, that will monitor the individual force at the tamping and final compression stations, and maintain closed loop control of each layer weight, based on a preset force target. The TRP700 offers the capability to measure and control the first and second layer weight on the basis of very low tamping forces. The system may also be configured with a single tablet rejection capability, which will reject an individual tablet on the basis of a tamping or final compression force that exceeds preset limits. The TRP700 offers a complete PRODUCT RECIPE capability, and offers an electronic audit trail capability to track machine adjustments and faults over the course of the batch. The TRP700 may be configured in a fully automated configuration to permit unattended operation.



KORSCH

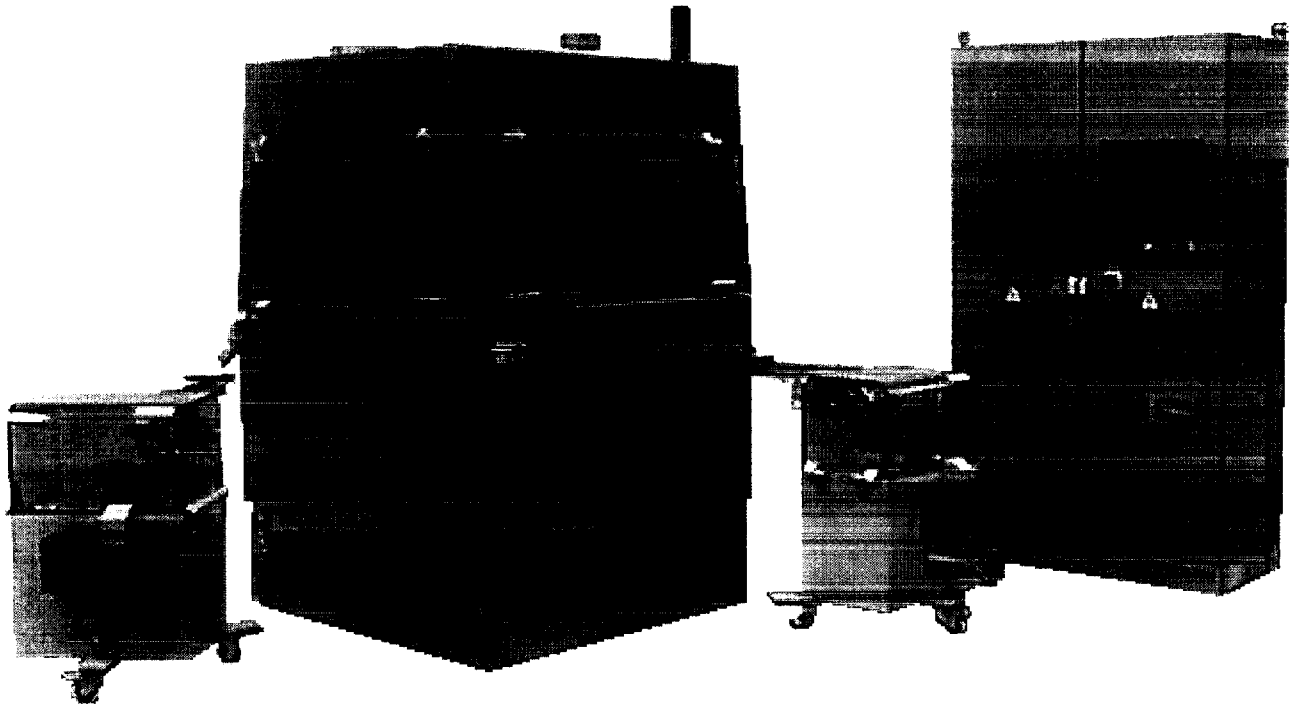
TRP700 Multi-Layer Specifications

DESCRIPTION	TRP700 BI-LAYER	TRP700 TRI-LAYER
Tool Spec	KORSCH	KORSCH
Number of Punch Stations	55	55
Max Compression Force (kN) First Layer	20	20
Max Compression Force (kN) Second Layer	100	20
Max Compression Force (kN) Third Layer	-	100
Max. Tablet Diameter (mm)	25	25
Max Filling Depth (mm) First Layer	40	40
Max Filling Depth (mm) Second Layer	25	25
Max Filling Depth (mm) Third Layer	-	25
Max Insertion Depth (mm) First Layer	25	25
Max Insertion Depth (mm) Second Layer	6	25
Max Insertion Depth (mm) Third Layer	-	6
Max Tablet Height (mm)	20	20
Turret Speed (RPM)	5-45	5-45
Max Output (tablets/min)	2,475	2,475
Pitch Circle Diameter (mm)	780	780
Filling Cams (mm) First Layer	10 15 20 25 30 35 40	10 15 20 25 30 35 40

KORSCH

PH800 3C Central Core Coater

The KORSCH PH800 3C is an innovative design that permits precise placement of a tablet core inside an external tablet shell at high speeds. KORSCH has developed a positive core placement mechanism to insure alignment in the center of the tablet, thus, insuring reliable and repeatable product performance. This placement mechanism provides the capability to produce special tablet shapes and configurations. The PH800 3C is available in a 24 and 48-station configuration, and provides an output range of 50,000 to 100,000 tablets per hour. The PH800 3C may be instrumented to permit product development and optimization. The PH800 3C is available with a press force control system which will automatically monitor and control tablet weight. In addition to this weight control capability, the control system offers the capability to reject individual tablets on the basis of compression force. This insures high-speed production with the tightest weight tolerances.



KORSCH

PH800 3C Central Core Coater Specifications

DESCRIPTION	PH824 3C1	PH848 3C1	PH848 3C2
Tool Spec	Modified B	Modified B	Modified B
Number of Punch Stations	24	48	48
Max Compression Force (kN)	80	80	80
Max Precompression Force (kN)	20	20	20
Max Core Tamping Force (kN)	0.5	0.5	0.5
Max. Tablet Diameter (mm)	25	25	25
Max Filling Depth (mm)	18	18	18
Max Tablet Height (mm)	11	11	11
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	20-35	20-35	20-35
Max Output (tablets/min)	840	1,670	3,340
Pitch Circle Diameter (mm)	740	740	740
Machine Height (mm)	2,204	2,204	2,204
Dimensions (mm)	1,320x1,740	1,320x1,740	1,320x1,740
Net Weight (kg)	5,500	5,500	5,500

Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

Validation Program

KORSCH offers a comprehensive validation support program, including detailed validation documentation, and complete on-site support. The documentation is made available when the order is placed to permit the validation protocol to be reviewed and approved PRIOR to machine delivery.

KORSCH will provide the complete back-up source code for all machine software, with the exception of those modules that are deemed to be proprietary by KORSCH. An agreement to provide proprietary software upon request will be provided by KORSCH as part of the standard documentation package. The back-up source code will be provided on a standard ZIP cartridge. The software development programs for the Allen-Bradley PLC and the WonderWare application program are specifically not included in the KORSCH scope of supply.

KORSCH

Training Certification Program

In an increasingly stringent regulatory environment, the issue of training certification has emerged as a major component of the validation process. In an effort to address this requirement, KORSCH has developed a comprehensive Training Certification Program that is designed to provide formal, documented training on the operation, maintenance, and service of KORSCH equipment. The KORSCH Training Certification Program consists of specific training modules to support the machine operation, mechanical maintenance, and electrical maintenance.

The KORSCH Training Certification Program is supported by training manuals and a training certification examination that may be administered to confirm the effectiveness of the training, or to direct subsequent training efforts. Certificates of Training are provided to attendees, and a formal training certification is provided for the customer's internal training group.

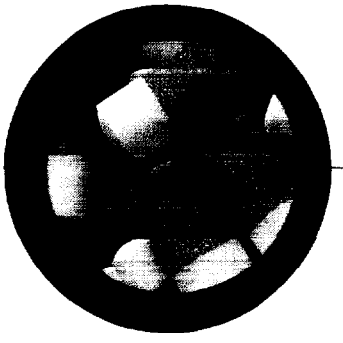
KORSCH

Preventative Maintenance / Calibration Program

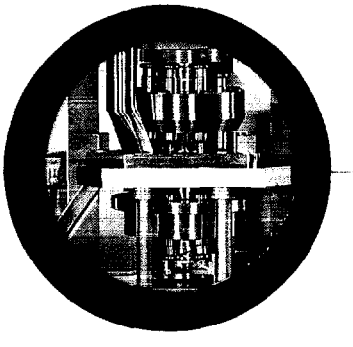
Increasing stringent FDA guidelines are now requiring more extensive validation and calibration documentation for all process equipment. In an effort to address this emerging requirement, and in order to insure the peak operating performance of the KORSCH Press, KORSCH offers a comprehensive program for Preventative Maintenance and Machine Calibration. The PM/Calibration Program consists of a semi-annual service visit, during which the machine is fully inspected and calibrated. Following the service, a detailed PM report is generated which documents the present condition of the machine, and provides an updated calibration certificate on all machine parameters.

KORSCH

Tradition



Concentration



Innovation

Top performance guaranteed

New product generations

For over 40 years, KORSCH has been involved in the production of the high-performance rotary presses that now represent our flagship products. We produce state-of-the-art presses that are recognized as the benchmark for technical progress in the industry. The new XL generation of rotary presses is a typical example.

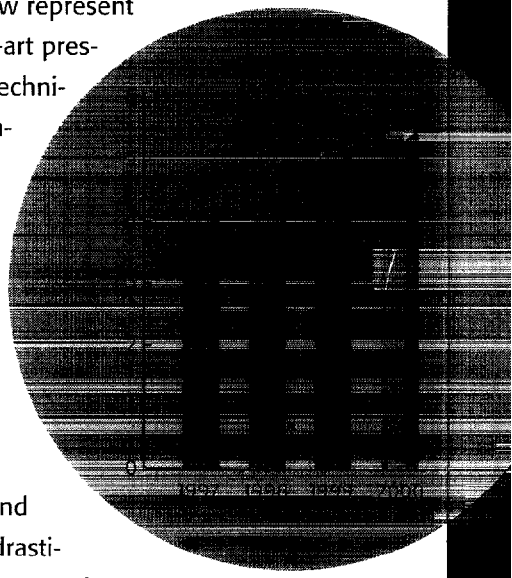
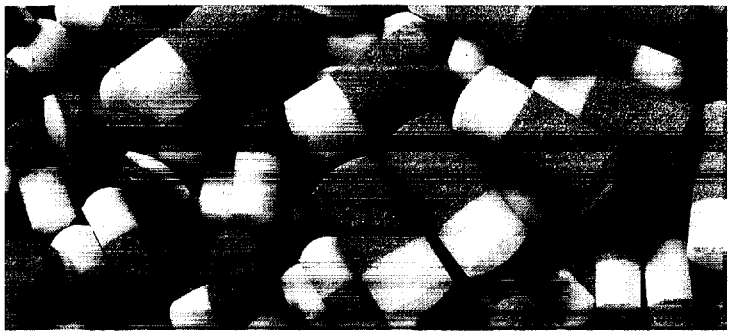


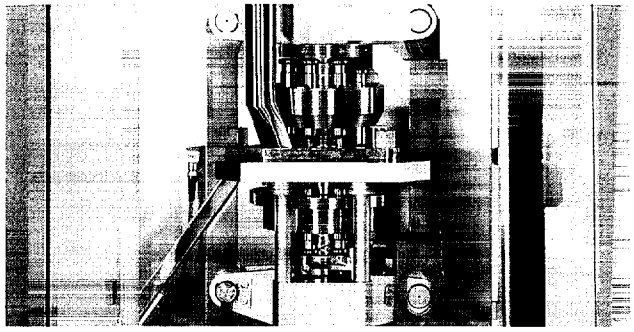
Photo: PIA Berlin/Thie

- Maximum performance for completely automated unattended three-shift operation.
- Exchangeable turret and ergonomic design to drastically reduce maintenance and changeover time.



- First tablet press to feature "through-the-wall" technology.
- Modular construction for exceptional versatility (KORSCH is the only manufacturer to offer options for the production of tablets with 1 to 5 layers).
- Quality Certification

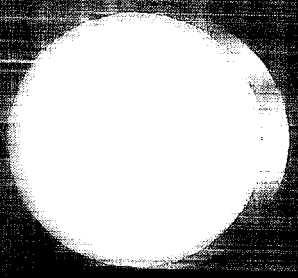
TÜV CERT ISO 9001 CERTIFIED



KORSCH products feature the quality it takes to meet even the most demanding requirements. In order to achieve and maintain this level of quality, we make a point of using advanced production technology in combination with stringent quality management.

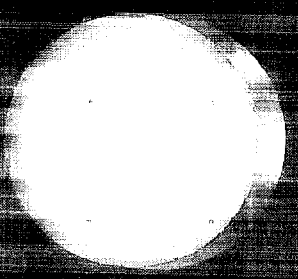
- Advanced CNC-controlled machine-tools.
- 3D-CAD systems for design and construction.
- Production in compliance with DIN EN-ISO 9001 – Certification since 1995
- Ongoing investment in advanced technology.

Investment (in millions of DM)

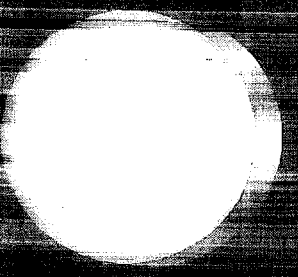


Products developed within the past four years account for over 60 % of KORSCH's sales. Worldwide, some 100 patents are registered in our name, which reflects the company's exceptional capacity for innovation.

We are committed to the development of new products and the enhancement of our products on an ongoing basis and have the capacity to do so:



- Our own development departments for mechanical and electrical engineering and software development at our Berlin location.
- The use of 3D systems in the area of mechanical design to shorten the development cycles for new products.
- Constant in-depth dialog with our customers.



Complete customer service

All of our activities focus on our customers and their needs. As a result, we do more than manufacture and market tablet presses. One of our major priorities is to provide our customers with a complete array of complementary services based upon the use of advanced electronic media.

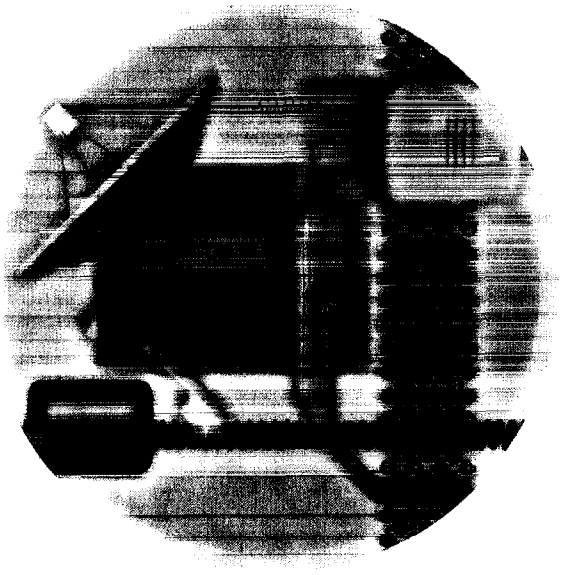


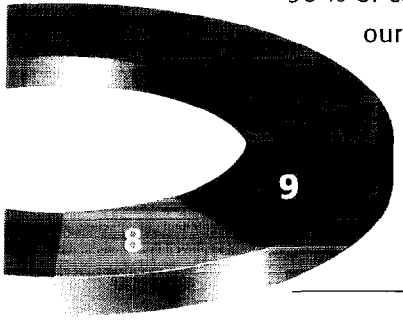
Photo: Tony Stone

- Customer-specific programs increase the availability of service and parts to keep machine downtime to an absolute minimum.
- Our hotline guarantees our customers the service they need–around the clock and around the world.
- Constantly updated qualification documentation for the entire range of KORSCH products.
- Design and engineering of production lines, including integration of equipment of other manufacturers.
- Training, including complete documentation.

Dynamic performance

The satisfaction of our customers is reflected in the performance of our company in terms of sales and profits. In particular, our export activities, which now account for 60 % of our sales, have contributed to this encouraging performance. In recent years, we managed to almost double sales.

Our production facilities now operate constantly at approximately 90 % of capacity. Due to this success, we are expanding our network of international sales and service locations and adding to our production capacity on an ongoing basis.



Sales in million of DM (Total: DM 45 million)

■ Pharmaceutical ■ Chemical ▒ Industrial

Export sales in %

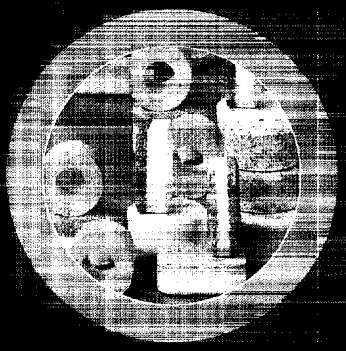
Visit us at www.korsch.de.

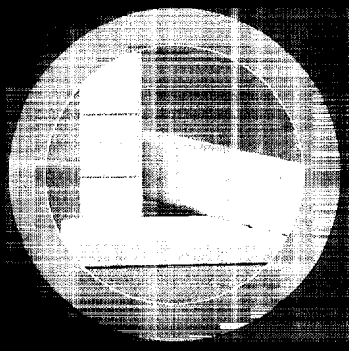
A formula for success

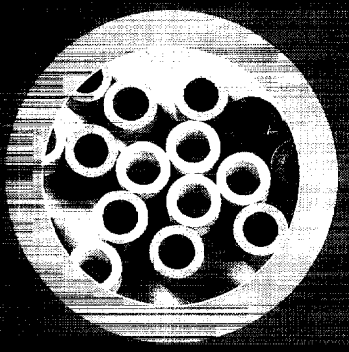
KORSCH can look back upon 80 years of experience in the production of tablet presses at its Berlin location. The result is a line of products that ranges from rotary and eccentric presses to special-purpose machines and testing and measurement equipment. This versatility is clearly unparalleled in the industry.

KORSCH specializes in the production of all types of tablet presses and the necessary peripheral equipment. In recent years, the company has been extremely successful and today ranks among the world leaders in its market.

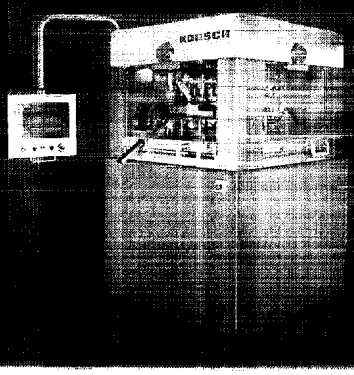
KORSCH sees itself as pioneer when it comes to developing innovative solutions hand in hand with our customers. We are convinced that a working partnership with our customers is a formula for mutual success.



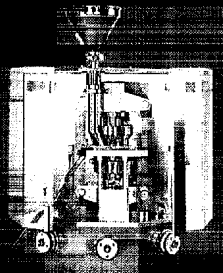




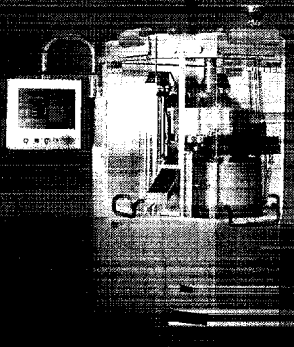
KORSCH
TRP 700/900

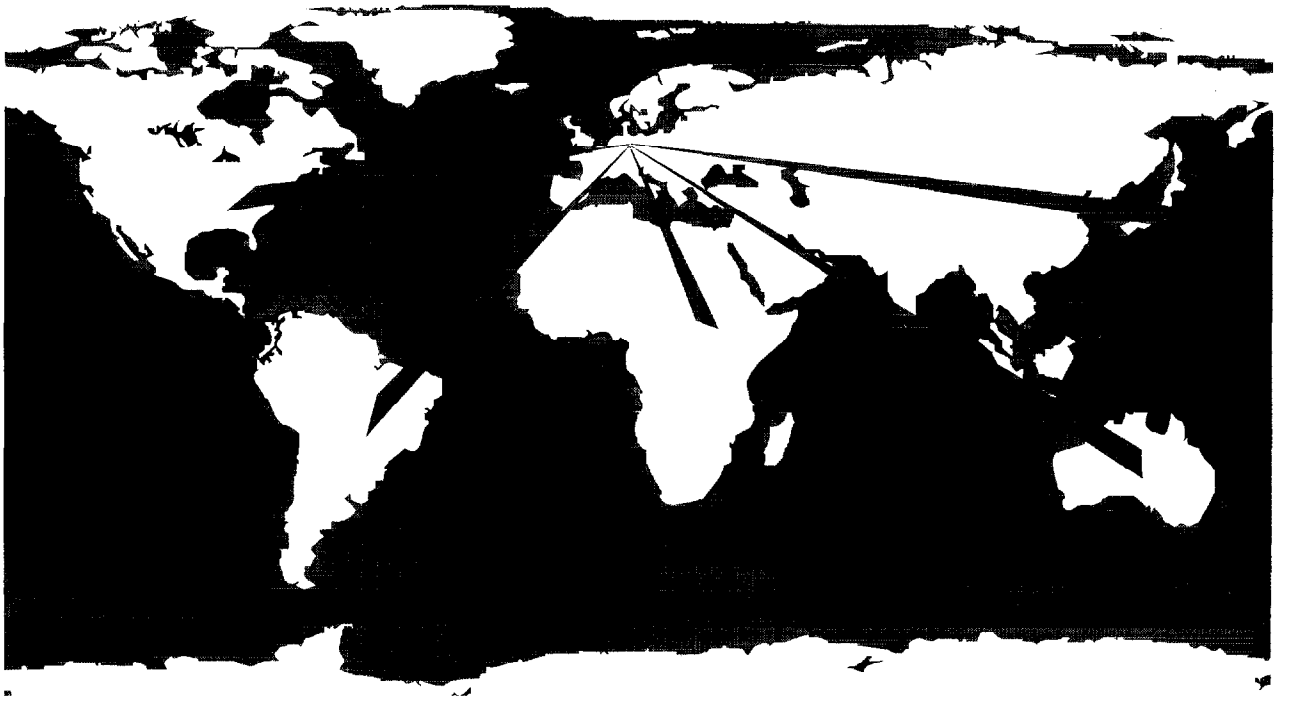


KORSCH
XL 100



KORSCH
XL 400





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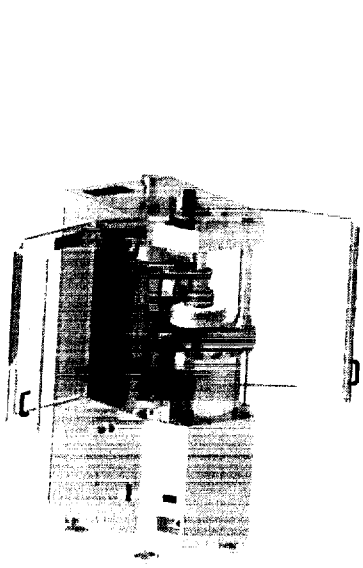
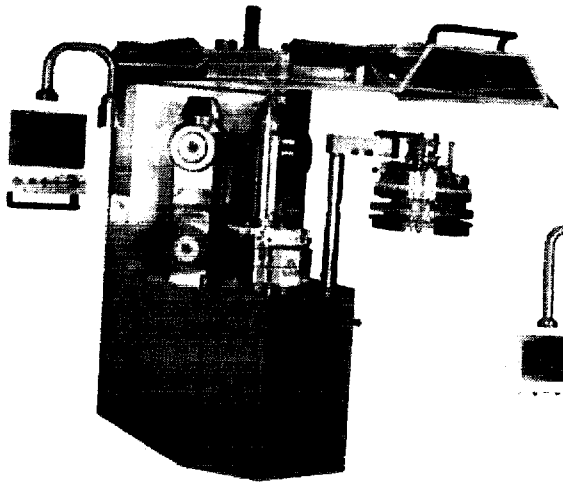
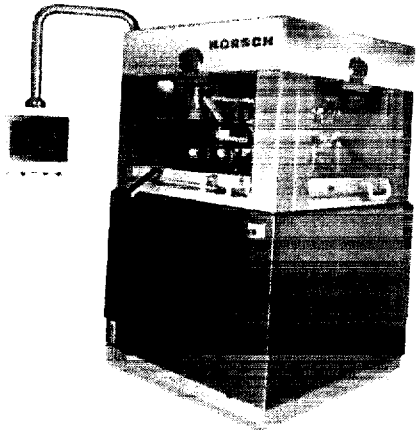
97000162

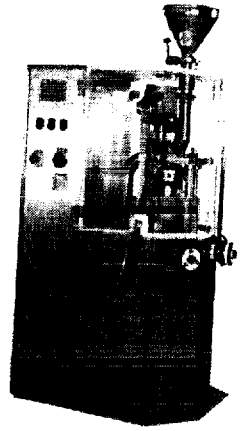
KORSCH

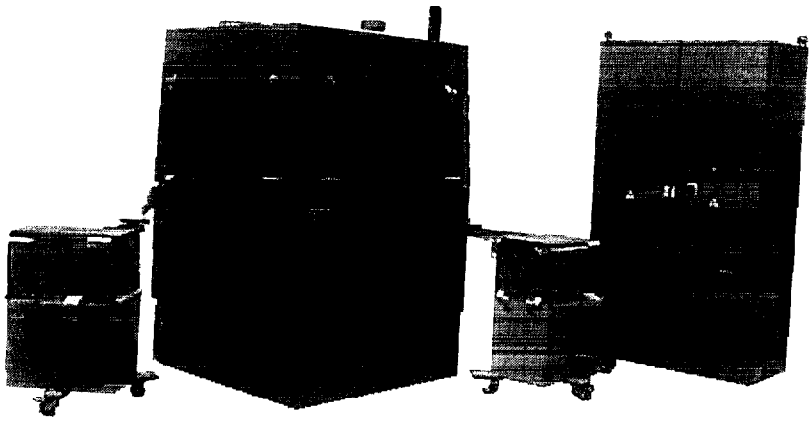






KORSCH Tablet Compression Equipment





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KORSCH

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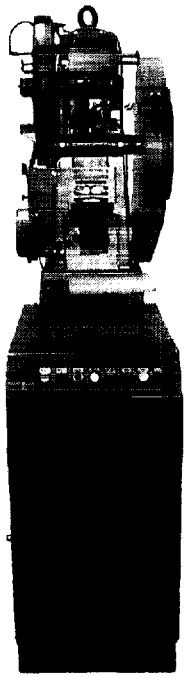
EK-0 Tablet Press



The KORSCH EK-0 Research Tablet Press is a single punch machine that is specifically designed to permit initial feasibility, screening, and solid product characterization. The EK-0 permits very small material quantities to be utilized and characterized very quickly and with a minimum of set-up and cleaning time. The EK-0 offers a proven, rugged design, which insures precision operation over the long term. The EK-0 may be utilized on a bench top or it may be equipped with an optional stainless steel mounting base. Press tools for the EK-0 are a KORSCH standard and are available from KORSCH PRESSEN or from a local press tool supplier. The complete tool set consists of an upper punch, lower punch, die, and dust cup for the lower punch.

The KORSCH EK-0 may be fully instrumented to permit complete data collection and analysis. The EK-0 is fully equipped for use with the KORSCH PMA-3, which provides a comprehensive, Windows-based data collection and analysis program to facilitate product characterization and optimization.

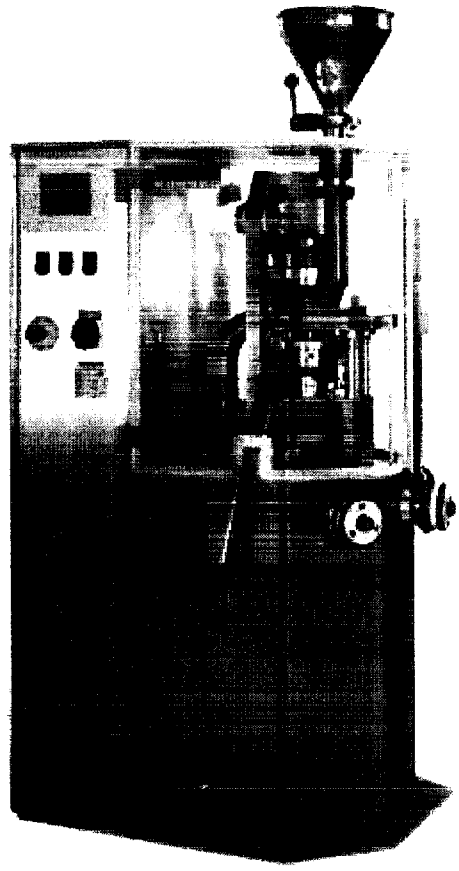
EK-0 Specifications

Maximum Press Force	*30 kN*
Maximum Tablet Diameter	*20 mm*
Maximum Filling Depth	*20 mm*
Press Speed Range	*10-60 RPM*
Main Power	*220 VAC, 3 phase*
Motor Output	*0.37 KW*
Net Weight	*150 kg*
Dimensions	*530 x 970 x 1030 mm*

KORSCH

XL100 Tablet Press

The KORSCH XL100 completes the R&D entry of the innovative KORSCH XL-Series. The XL100 is the ideal rotary press for formulation development and small batch production. The XL100 offers a new standard in GMP, extreme accessibility to the compression zone, an exchangeable turret for maximum flexibility, and a combination of quick-disconnects and smooth surfaces that permit fast cleaning and changeover. The machine is extremely robust and rugged, offering a precompression capability of 15 kN, and a main compression capability of 60 kN, contained in a unique structural design that eliminates vibration to the head piece and base frame. The exchangeable turret capability provides ultimate flexibility in a development press.



The XL100 may be fully instrumented for the measurement of precompression force, main compression force, and ejection force (segmented cam), to permit product development parameters to be evaluated and stored.

In addition to the instrumentation package, the XL100 may be equipped with a press force control system for automatic tablet weight control, and single tablet rejection based on individual press forces.

KORSCH

XL100 Specifications

DESCRIPTION	XL100/12	XL100/10	XL100/8
Tool Spec	BB	B	D
Number of Punch Stations	12	10	8
Max Compression Force (kN)	60	60	60
Max Precompression Force (kN)	15	15	15
Max Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	16	16	16
Max Tablet Height (mm)	8	8	8
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	20-120	20-120	20-60
Max Output (tablets/min)	1,440	1,200	480
Pitch Circle Diameter (mm)	118	118	118
Filling Cams (mm)	0-6 4-10 10-16	0-6 4-10 10-16	0-6 4-10 10-16
Machine Height (mm)	1.584	1.584	1.584
Dimensions L x W (mm)	818 x 665	818 x 665	818 x 665
Net Weight (kg)	530	530	530

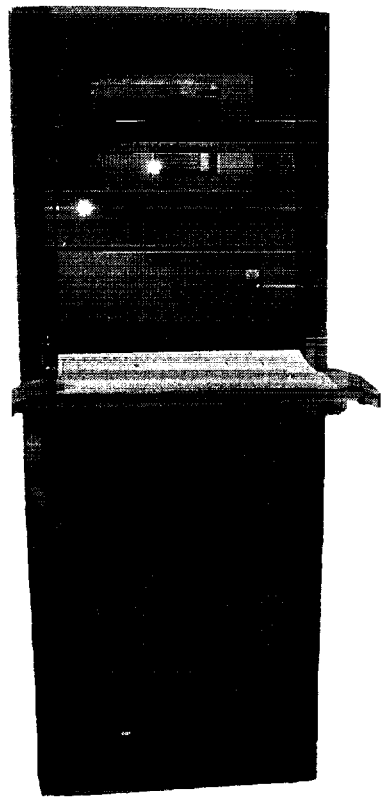
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

PMA-3 Data Acquisition System

The KORSCH PMA-3 is a Windows based Data Acquisition System that has been design to complement the full line of KORSCH equipment for product development and scale-up. The PMA-3 is configured in a 19" rack tower and includes an industrial PC, monitor, printer, high-speed A/D card, and computer interfaced amplifiers. The PMA-3 software features a simple, user-friendly screen environment, and the data generated by the PMA-3 may be exported to other Windows applications in a standard EXCEL format.



The PMA-3 offers a data collection module that provides a real-time display of press force and punch displacement parameters, including actual waveforms and digital values. With the machine running, the PMA-3 will display the maximum compression force, maximum ejection force, and maximum upper punch displacement (EK-0 only) to permit a clear understanding of the compression properties.

The PMA-3 offers a comprehensive data analysis capability to permit individual compression events to be evaluated. The PMA-3 will calculate force peaks, area under the force-time curve, compression contact time, rate of force application, and rate of force decay. The system permits a punch station by punch station analysis, and a full statistical summary of each data set.

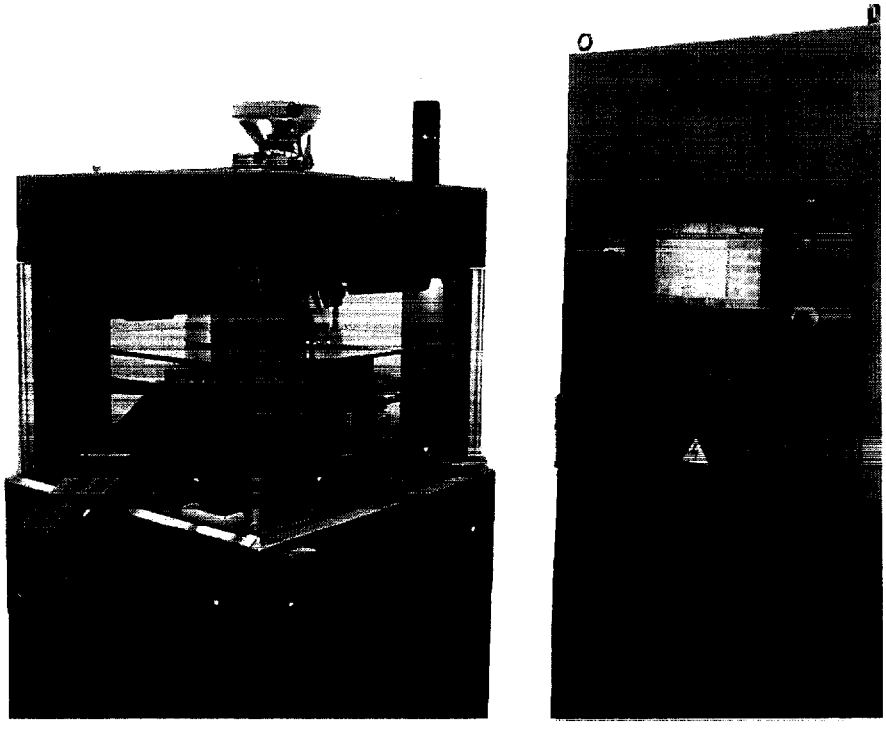
For clinical batch production, the PMA-3 offers a press force trending and storage capability to permit average force values to be retained during the course of an extended run. In addition, process limits can be introduced to notify the user in the event that the compression or ejection force exceeds a preset value.

The PMA-3 has a multi-machine capability, and can be used to collect and correlate data from multiple KORSCH machines. A set-up file permits the PMA-3 to be configured for a number of different machines, to permit a consistent methodology and data format for all product development, scale-up, and clinical production efforts.

KORSCH

PH250 Tablet Press

The KORSCH PH250 offers a high-speed capability to permit product scale-up or small-scale batch production. The PH250 may be fully instrumented to permit the analysis of precompression force, main compression force, and tablet ejection force, and these parameters can be recorded for correlation with production scale equipment. The PH250 offers a CLEAN COMPRESSION AREA, which is free from electrical sensors, and the compression zone is completely isolated. The PH250 is equipped with an ALLEN BRADLEY or SIEMENS PLC based control system for machine, and press force control. The control system is located in a remote control cabinet, which requires only minimal space in the compression room. The isolated compression zone, and the extensive use of quick disconnects, insures the fastest cleaning and changeover times. The PH250 offers a complete PRODUCT RECIPE capability, and offers an electronic audit trail capability to track machine adjustments and faults over the course of the batch. The PH250 may be configured in a fully automated configuration to permit unattended operation.



KORSCH

PH250 Specifications

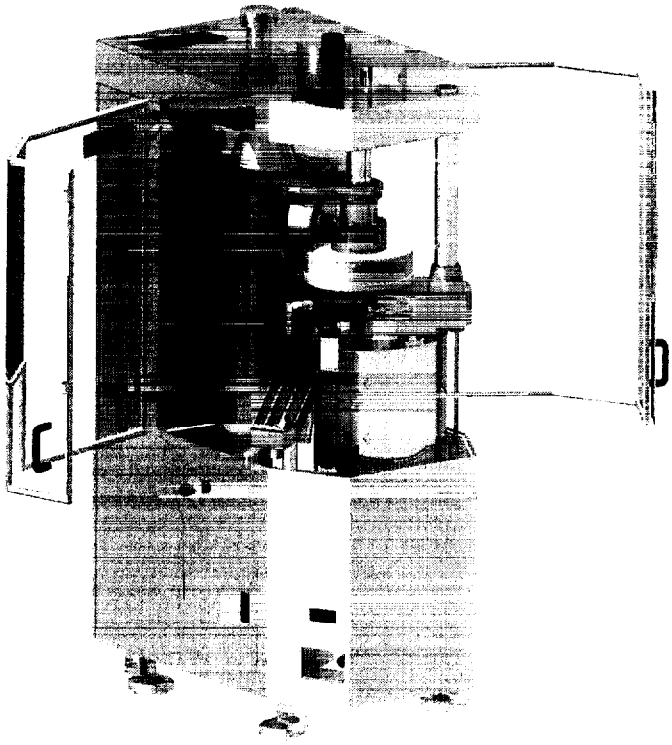
DESCRIPTION	PH250/30	PH250/25	PH250/16	PH250/14
Tool Spec	BB	B	B	D
Number of Punch Stations	30	25	16	14
Max Compression Force (kN)	80	80	80	80
Max Precompression Force (kN)	20	20	20	20
Max. Tablet Diameter (mm)	13	16	16	25
Max Filling Depth (mm)	18	18	18	22
Max Tablet Height (mm)	8.5	8.5	8.5	11
Insertion Depth (mm)	2-6	2-6	2-6	2-6
Turret Speed (RPM)	5-120	5-120	5-120	5-90
Max Output (tablets/min)	3,840	3,000	1,920	1,260
Pitch Circle Diameter (mm)	285	285	285	285
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	1,743	1,743	1,743	1,743
Dimensions (mm)	830x1,190	830x1,190	830x1,190	830x1,190
Net Weight (kg)	1,650	1,650	1,650	1,650

Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

XL200 Tablet Press



The KORSCH XL200 is the optimal machine for product scale-up, clinical batch production, and small-scale batch production. The XL200 offers the patented and proven design features of the XL400 machine – and provides an extreme degree of flexibility and capability in a scale-up machine. The XL200 features an exchangeable turret to permit the scale-up and production of every product size on a single machine. The machine is extremely robust and rugged, offering a precompression capability of 40 kN, and a main compression capability of 80 kN, contained in a unique structural design that eliminates vibration to the head piece and base frame.

The XL200 may be fully instrumented for the measurement of precompression force, main compression force, and ejection force (segmented cam), to permit product development parameters to be evaluated and stored. The XL200 is offered with a comprehensive control system, which includes product recipe, press force control, single tablet rejection, and the ability to integrate to a tablet weight, or weight-thickness-hardness sampling unit. In addition the system can be configured with an electronic audit trail to track all machine adjustments, faults, and process parameters, during clinical batch production.

KORSCH

XL200 Specifications

DESCRIPTION	XL200/30	XL200/25	XL200/20
Tool Spec	BB	B	D
Number of Punch Stations	30	25	20
Max Compression Force (kN)	80	80	80
Max Precompression Force (kN)	40	40	40
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	18	18	22
Max Tablet Height (mm)	8.5	8.5	8.5
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	5-120	5-120	5-80
Max Output (tablets/min)	3,600	3,000	1,600
Pitch Circle Diameter (mm)	285	285	285
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	1,977	1,977	1,977
Dimensions L x W (mm)	1,200x790	1,200x790	1,200x790
Net Weight (kg)	2,600	2,600	2,600

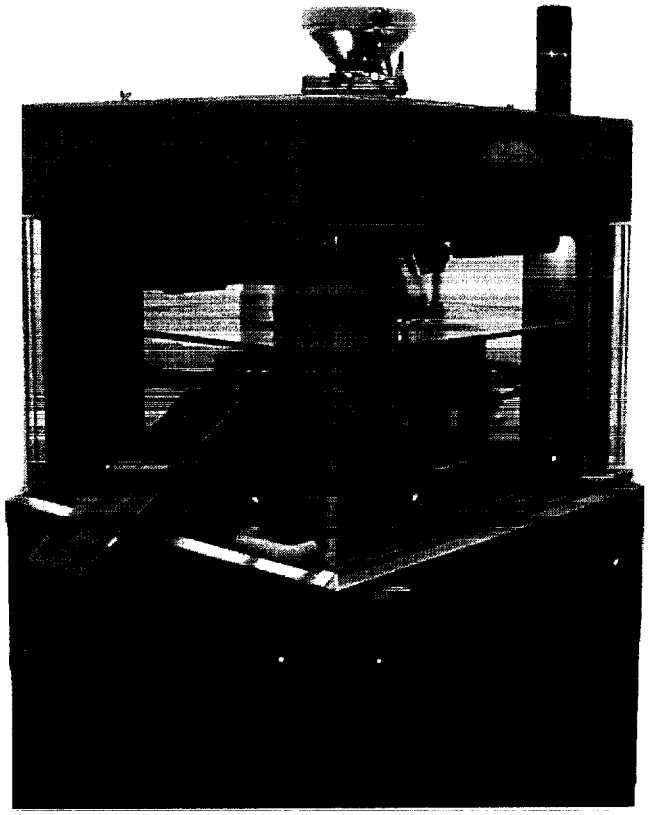
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

PH300 Tablet Press

The KORSCH PH300 is high-speed, single-sided tablet press, which offers a rugged and proven design, with precise tablet weight control, with minimal cleaning and changeover times. The PH300 offers a CLEAN COMPRESSION AREA that is free from electrical sensors, and the compression zone is completely isolated. The PH300 is equipped with an ALLEN BRADLEY or SIEMENS PLC based control system for machine, and press force control. The control system is located in a remote control cabinet, which requires only minimal space in or outside of the compression room. The PH300 is equipped with a specially designed cam track, which utilizes a composite cam material, which requires only minimal lubrication. The result is a faster, quieter machine, with no risk of oil contamination at the die table, even long periods of continuous operation. The PH300 offers a complete PRODUCT RECIPE capability, and offers an electronic audit trail capability to track machine adjustments and faults over the course of the batch. The PH300 may be configured in a fully automated configuration to permit unattended operation.



KORSCH

PH300 Specifications

DESCRIPTION	PH300/43	PH300/36	PH300/29
Tool Spec	BB	B	D
Number of Punch Stations	43	36	29
Max Compression Force (kN)	80	80	80
Max Precompression Force (kN)	20	20	20
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	18	18	22
Max Tablet Height (mm)	8.5	8.5	11
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	5-116	5-116	5-80
Max Output (tablets/min)	5,000	4,190	2,320
Pitch Circle Diameter (mm)	410	410	410
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	1,832	1,832	1,832
Dimensions (mm)	960x1,350	960x1,350	960x1,350
Net Weight (kg)	2,400	2,400	2,400

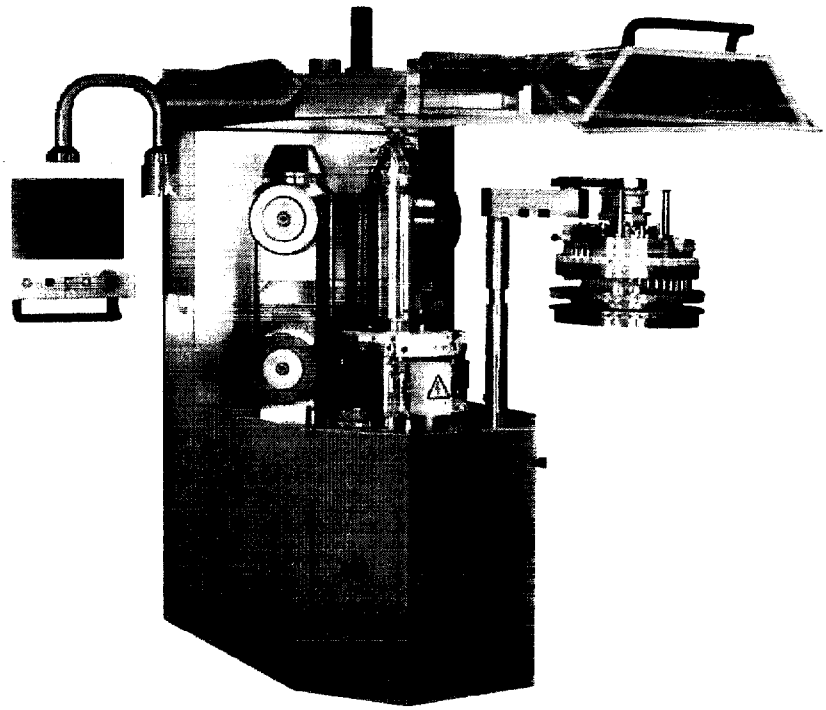
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

XL400 Tablet Press

The KORSCH XL400 is an innovative machine that offers a new standard in GMP, extreme accessibility to the compression zone, and a combination of quick-disconnects and smooth surfaces that permit fast cleaning and changeover. The machine is extremely robust and rugged, offering 100 kN precompression and 100 kN main compression, and a unique structural design that eliminates vibration to the head piece and base frame. In addition, the XL400 features a *removable turret* capability to permit a single machine to run all press tool sizes, to provide maximum flexibility and versatility. The XL400 offers a control system platform featuring the ALLEN BRADLEY or SIEMENS PLC, in a simple, reliable, and user-friendly environment. The XL400 can be easily interfaced to a centralized SCADA (supervisory control and data acquisition) system for remote monitoring and production batch management.



KORSCH

XL400 Specifications

DESCRIPTION	XL400/44	XL400/35	XL400/29
Tool Spec	BB	B	D
Number of Punch Stations	44	35	29
Max Compression Force (kN)	100	100	100
Max Precompression Force (kN)	100	100	100
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	18	18	22
Max Tablet Height (mm)	8.5	8.5	8.5
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	5-120	5-120	5-80
Max Output (tablets/min)	5,280	4,200	2,320
Pitch Circle Diameter (mm)	410	410	410
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	2,153	2,153	2,153
Dimensions (mm)	946x1595	946x1595	946x1595
Net Weight (kg)	3,700	3,700	3,700

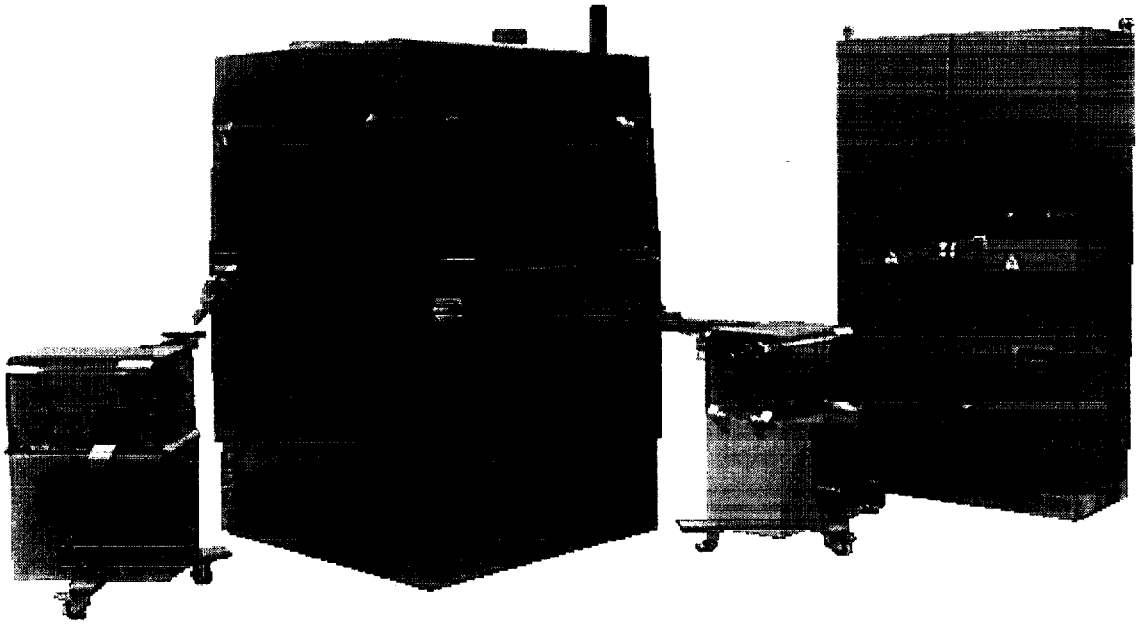
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

PH800 Tablet Press

The KORSCH PH800 is a double-sided tablet press, offering the highest tablet output, and the longest run durations. Designed for high volume production, the PH800 offers a rugged and proven design, with precise tablet weight control, and minimal cleaning and changeover times. The PH800 is equipped with an ALLEN BRADLEY or SIEMENS PLC based control system for machine, and press force control. The control system is located in a remote control cabinet, which requires only minimal space in or outside the compression room. The PH800 offers a complete PRODUCT RECIPE capability, and offers an electronic audit trail capability to track machine adjustments and faults over the course of the batch. The PH800 may be configured in a fully automated configuration to permit unattended operation.



PH800 Specifications

DESCRIPTION	PH800/77	PH800/65	PH800/53
Tool Spec	BB	B	D
Number of Punch Stations	77	65	53
Max Compression Force (kN)	80	80	80
Max Precompression Force (kN)	20	20	20/80
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm)	18	18	22
Max Tablet Height (mm)	8.5	8.5	11
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	5-120	5-120	5-80
Max Output (tablets/min)	16,670	14,070	8,480
Pitch Circle Diameter (mm)	740	740	740
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	2,040	2,040	2,040
Dimensions (mm)	1,320x1,320	1,320x1,320	1,320x1,320
Net Weight (kg)	4,000	4,000	4,000

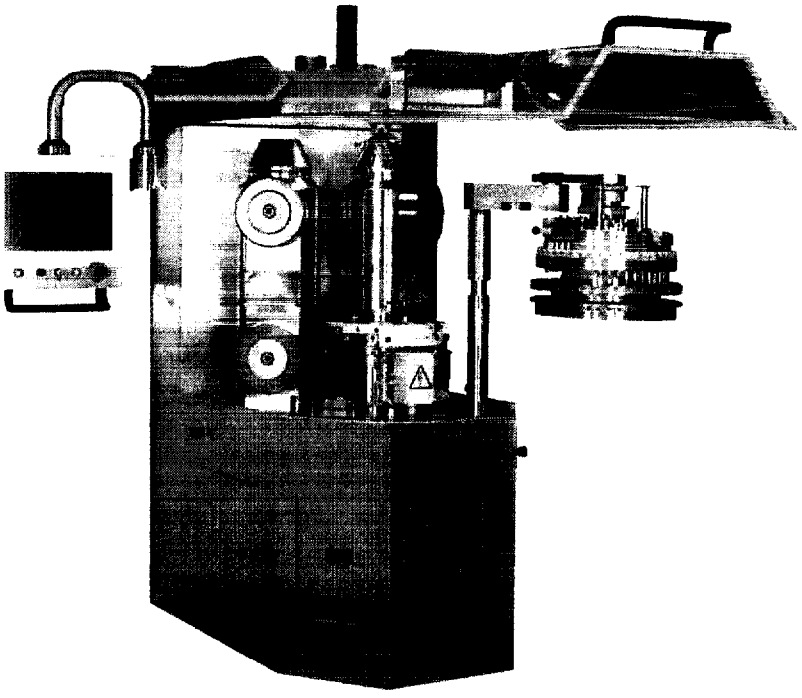
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

XL400 Bi-Layer Tablet Press

The proven XL400 Tablet Press is now available in a bi-layer configuration. In combination with an exchangeable turret and single layer conversion kit, this machine offers unprecedented versatility for bi-layer development and production. The XL400 Bi-Layer Tablet press can be configured for both bi-layer and single layer production, with any turret size - and with a reduced tools capability, this machines offers an extreme advantage for small-scale bi-layer product development. The machine is extremely robust and rugged, offering a 5 kN tamping capability and 100 kN main compression, and a unique structural design that eliminates vibration to the head piece and base frame. In addition, the XL400 features a *removable turret* capability to permit a single machine to run all press tool sizes, to provide maximum flexibility and versatility. The XL400 offers a control system platform featuring the ALLEN BRADLEY or SIEMENS PLC, in a simple, reliable, and user-friendly environment. The XL400 can be easily interfaced to a centralized SCADA (supervisory control and data acquisition) system for remote monitoring and production batch management.



XL400 Bi-Layer Specifications

DESCRIPTION	XL400/44	XL400/35	XL400/29
Tool Spec	BB	B	D
Number of Punch Stations	44	35	29
Max Compression Force (kN)	100	100	100
Max Precompression Force (kN)	5	5	5
Max. Tablet Diameter (mm)	13	16	25
Max Filling Depth (mm) First Layer	18	18	22
Max Filling Depth (mm) Second Layer	10	10	10
Max Tablet Height (mm)	8.5	8.5	8.5
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM) First Layer	5-120	5-120	5-80
Turret Speed (RPM) Second Layer	5-50	5-50	5-50
Max Output (tablets/min) First Layer	5,280	4,200	2,320
Max Output (tablets/min) Second Layer	2,200	1,750	1,450
Pitch Circle Diameter (mm)	410	410	410
Filling Cams (mm)	0-10 4-14 8-18	0-10 4-14 8-18	0-10 4-14 8-18 12-22
Machine Height (mm)	2,153	2,153	2,153
Dimensions (mm)	1,595x946	1,595x946	1,595x946
Net Weight (kg)	3,700	3,700	3,700

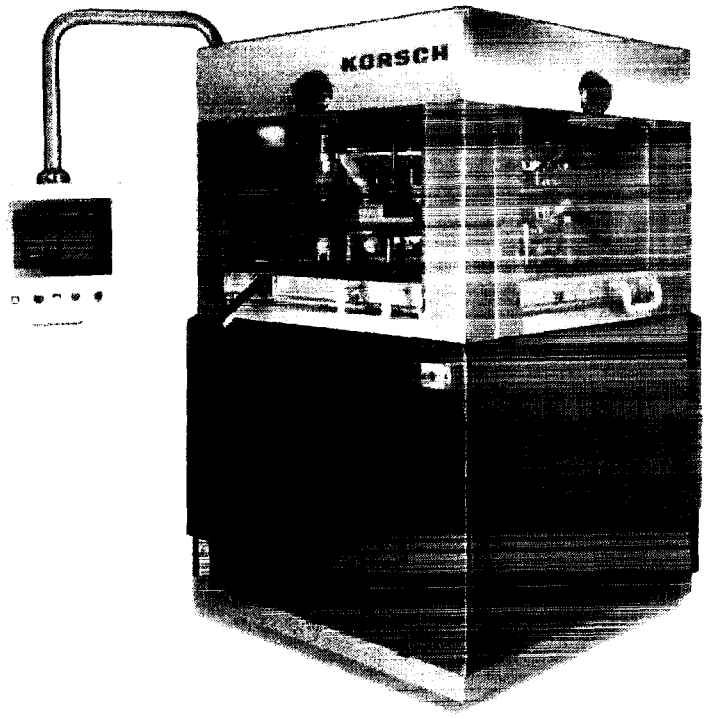
Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

TRP700 Tablet Press

The KORSCH TRP700 is a high speed, bi-layer or tri-layer tablet press, which is specifically intended for materials that require deep filling depth and insertion depth capability. The TRP700 has been extremely effective in the production of these type of products, and offers a rugged and proven design, with precise layer weight control, and minimal cleaning and changeover times. The TRP700 offers a GMP COMPRESSION AREA, and the compression zone is completely isolated from the lower cam section, and lower mechanical section. The TRP700 is equipped with an ALLEN BRADLEY or SIEMENS PLC based control system for machine control. The TRP700 may be equipped with a press force control system, that will monitor the individual force at the tamping and final compression stations, and maintain closed loop control of each layer weight, based on a preset force target. The TRP700 offers the capability to measure and control the first and second layer weight on the basis of very low tamping forces. The system may also be configured with a single tablet rejection capability, which will reject an individual tablet on the basis of a tamping or final compression force that exceeds preset limits. The TRP700 offers a complete PRODUCT RECIPE capability, and offers an electronic audit trail capability to track machine adjustments and faults over the course of the batch. The TRP700 may be configured in a fully automated configuration to permit unattended operation.



KORSCH

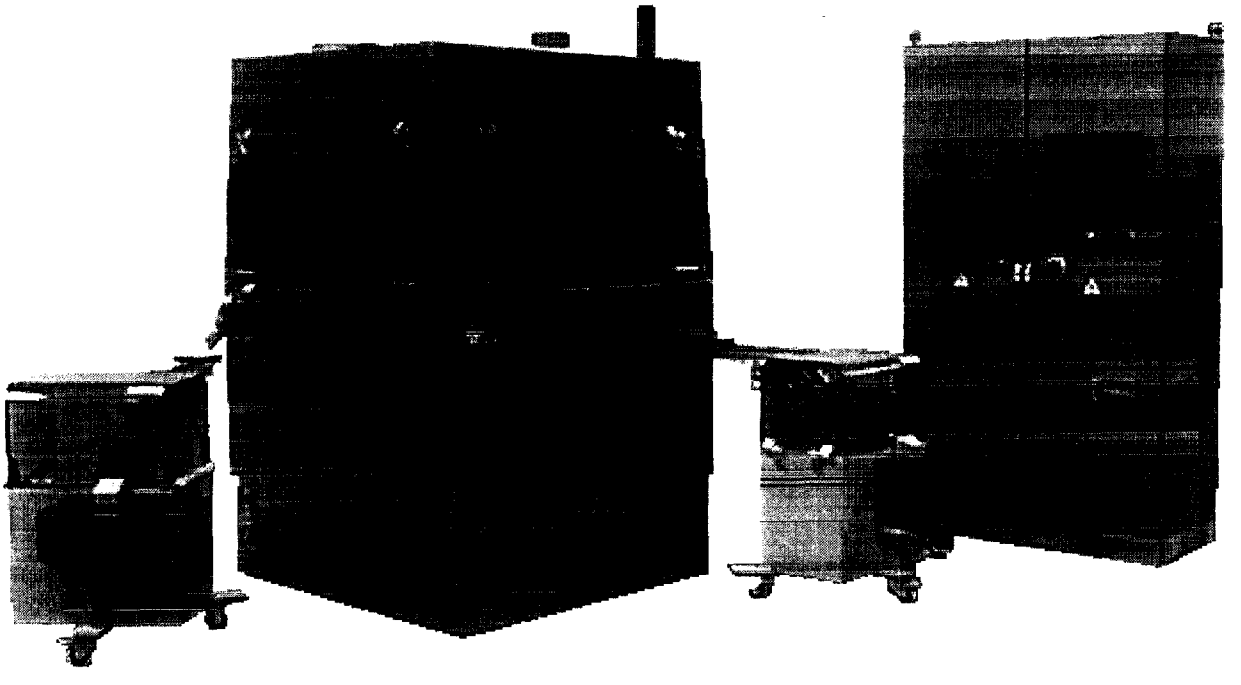
TRP700 Multi-Layer Specifications

DESCRIPTION	TRP700 BI-LAYER	TRP700 TRI-LAYER
Tool Spec	KORSCH	KORSCH
Number of Punch Stations	55	55
Max Compression Force (kN) First Layer	20	20
Max Compression Force (kN) Second Layer	100	20
Max Compression Force (kN) Third Layer	-	100
Max. Tablet Diameter (mm)	25	25
Max Filling Depth (mm) First Layer	40	40
Max Filling Depth (mm) Second Layer	25	25
Max Filling Depth (mm) Third Layer	-	25
Max Insertion Depth (mm) First Layer	25	25
Max Insertion Depth (mm) Second Layer	6	25
Max Insertion Depth (mm) Third Layer	-	6
Max Tablet Height (mm)	20	20
Turret Speed (RPM)	5-45	5-45
Max Output (tablets/min)	2,475	2,475
Pitch Circle Diameter (mm)	780	780
Filling Cams (mm) First Layer	10 15 20 25 30 35 40	10 15 20 25 30 35 40

KORSCH

PH800 3C Central Core Coater

The KORSCH PH800 3C is an innovative design that permits precise placement of a tablet core inside an external tablet shell at high speeds. KORSCH has developed a positive core placement mechanism to insure alignment in the center of the tablet, thus, insuring reliable and repeatable product performance. This placement mechanism provides the capability to produce special tablet shapes and configurations. The PH800 3C is available in a 24 and 48-station configuration, and provides an output range of 50,000 to 100,000 tablets per hour. The PH800 3C may be instrumented to permit product development and optimization. The PH800 3C is available with a press force control system which will automatically monitor and control tablet weight. In addition to this weight control capability, the control system offers the capability to reject individual tablets on the basis of compression force. This insures high-speed production with the tightest weight tolerances.



KORSCH

PH800 3C Central Core Coater Specifications

DESCRIPTION	PH824 3C1	PH848 3C1	PH848 3C2
Tool Spec	Modified B	Modified B	Modified B
Number of Punch Stations	24	48	48
Max Compression Force (kN)	80	80	80
Max Precompression Force (kN)	20	20	20
Max Core Tamping Force (kN)	0.5	0.5	0.5
Max. Tablet Diameter (mm)	25	25	25
Max Filling Depth (mm)	18	18	18
Max Tablet Height (mm)	11	11	11
Insertion Depth (mm)	2-6	2-6	2-6
Turret Speed (RPM)	20-35	20-35	20-35
Max Output (tablets/min)	840	1,670	3,340
Pitch Circle Diameter (mm)	740	740	740
Machine Height (mm)	2,204	2,204	2,204
Dimensions (mm)	1,320x1,740	1,320x1,740	1,320x1,740
Net Weight (kg)	5,500	5,500	5,500

Please note:

1. Maximum output depends on the tablet shape, material flow characteristics, and required compression force.

KORSCH

Validation Program

KORSCH offers a comprehensive validation support program, including detailed validation documentation, and complete on-site support. The documentation is made available when the order is placed to permit the validation protocol to be reviewed and approved PRIOR to machine delivery.

KORSCH will provide the complete back-up source code for all machine software, with the exception of those modules that are deemed to be proprietary by KORSCH. An agreement to provide proprietary software upon request will be provided by KORSCH as part of the standard documentation package. The back-up source code will be provided on a standard ZIP cartridge. The software development programs for the Allen-Bradley PLC and the WonderWare application program are specifically not included in the KORSCH scope of supply.

KORSCH

Training Certification Program

In an increasingly stringent regulatory environment, the issue of training certification has emerged as a major component of the validation process. In an effort to address this requirement, KORSCH has developed a comprehensive Training Certification Program that is designed to provide formal, documented training on the operation, maintenance, and service of KORSCH equipment. The KORSCH Training Certification Program consists of specific training modules to support the machine operation, mechanical maintenance, and electrical maintenance.

The KORSCH Training Certification Program is supported by training manuals and a training certification examination that may be administered to confirm the effectiveness of the training, or to direct subsequent training efforts. Certificates of Training are provided to attendees, and a formal training certification is provided for the customer's internal training group.

KORSCH

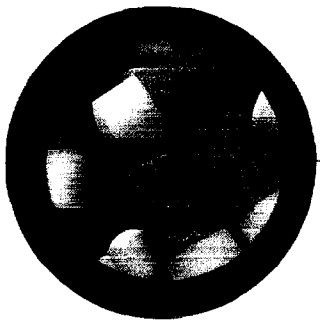
KORSCH

Preventative Maintenance / Calibration Program

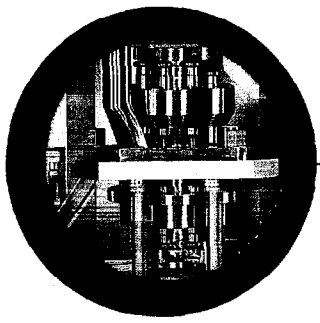
Increasing stringent FDA guidelines are now requiring more extensive validation and calibration documentation for all process equipment. In an effort to address this emerging requirement, and in order to insure the peak operating performance of the KORSCH Press, KORSCH offers a comprehensive program for Preventative Maintenance and Machine Calibration. The PM/Calibration Program consists of a semi-annual service visit, during which the machine is fully inspected and calibrated. Following the service, a detailed PM report is generated which documents the present condition of the machine, and provides an updated calibration certificate on all machine parameters.

KORSCH

Tradition



Concentration



Innovation

Top performance guaranteed

New product generations

For over 40 years, KORSCH has been involved in the production of the high-performance rotary presses that now represent our flagship products. We produce state-of-the-art presses that are recognized as the benchmark for technical progress in the industry. The new XL generation of rotary presses is a typical example.

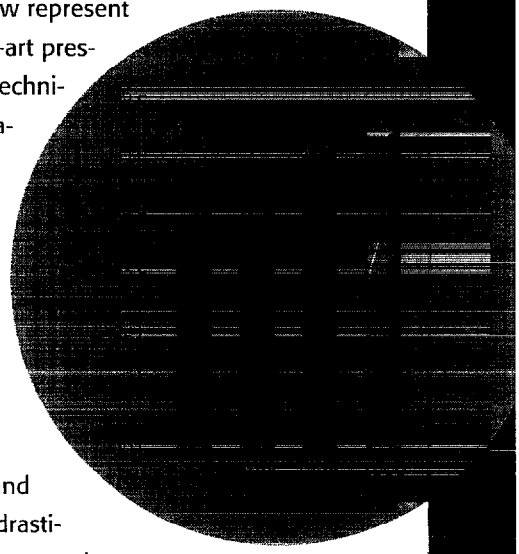
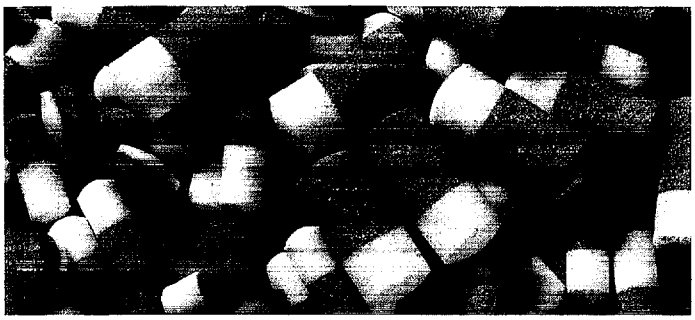
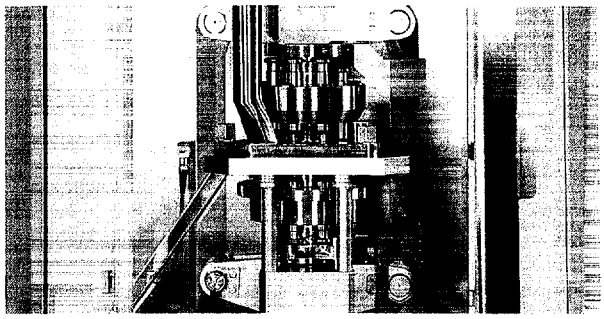


Photo: PIA Berlin/Thie





- Maximum performance for completely automated unattended three-shift operation.
- Exchangeable turret and ergonomic design to drastically reduce maintenance and changeover time.
- First tablet press to feature "through-the-wall" technology.
- Modular construction for exceptional versatility (KORSCH is the only manufacturer to offer options for the production of tablets with 1 to 5 layers).
- Quality Certification

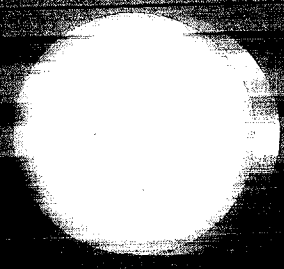
TÜV CERT ISO 9001 CERTIFIED

KORSCH

KORSCH products feature the quality it takes to meet even the most demanding requirements. In order to achieve and maintain this level of quality, we make a point of using advanced production technology in combination with stringent quality management.

- Advanced CNC-controlled machine-tools.
- 3D-CAD systems for design and construction.
- Production in compliance with DIN EN-ISO 9001 – Certification since 1995.
- Ongoing investment in advanced technology.

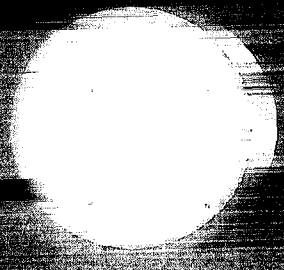
Investment (in millions of DM)

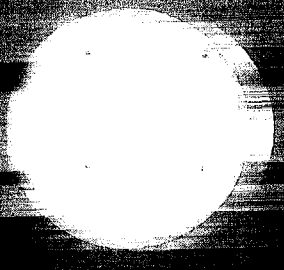


Products developed within the past four years account for over 60 % of KORSCH's sales. Worldwide, some 100 patents are registered in our name, which reflects the company's exceptional capacity for innovation.

We are committed to the development of new products and the enhancement of our products on an ongoing basis and have the capacity to do so:

- Our own development departments for mechanical and electrical engineering and software development at our Berlin location.
- The use of 3D systems in the area of mechanical design to shorten the development cycles for new products.
- Constant in-depth dialog with our customers.





Complete customer service

All of our activities focus on our customers and their needs. As a result, we do more than manufacture and market tablet presses. One of our major priorities is to provide our customers with a complete array of complementary services based upon the use of advanced electronic media.

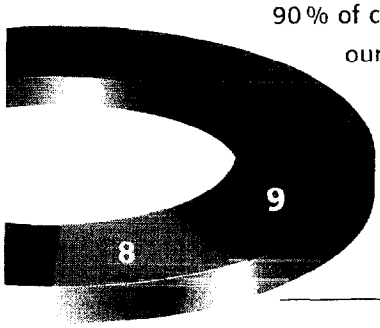
Photo: Tony Stone

- Customer-specific programs increase the availability of service and parts to keep machine downtime to an absolute minimum.
- Our hotline guarantees our customers the service they need–around the clock and around the world.
- Constantly updated qualification documentation for the entire range of KORSCH products.
- Design and engineering of production lines, including integration of equipment of other manufacturers.
- Training, including complete documentation.

Dynamic performance

The satisfaction of our customers is reflected in the performance of our company in terms of sales and profits. In particular, our export activities, which now account for 60 % of our sales, have contributed to this encouraging performance. In recent years, we managed to almost double sales.

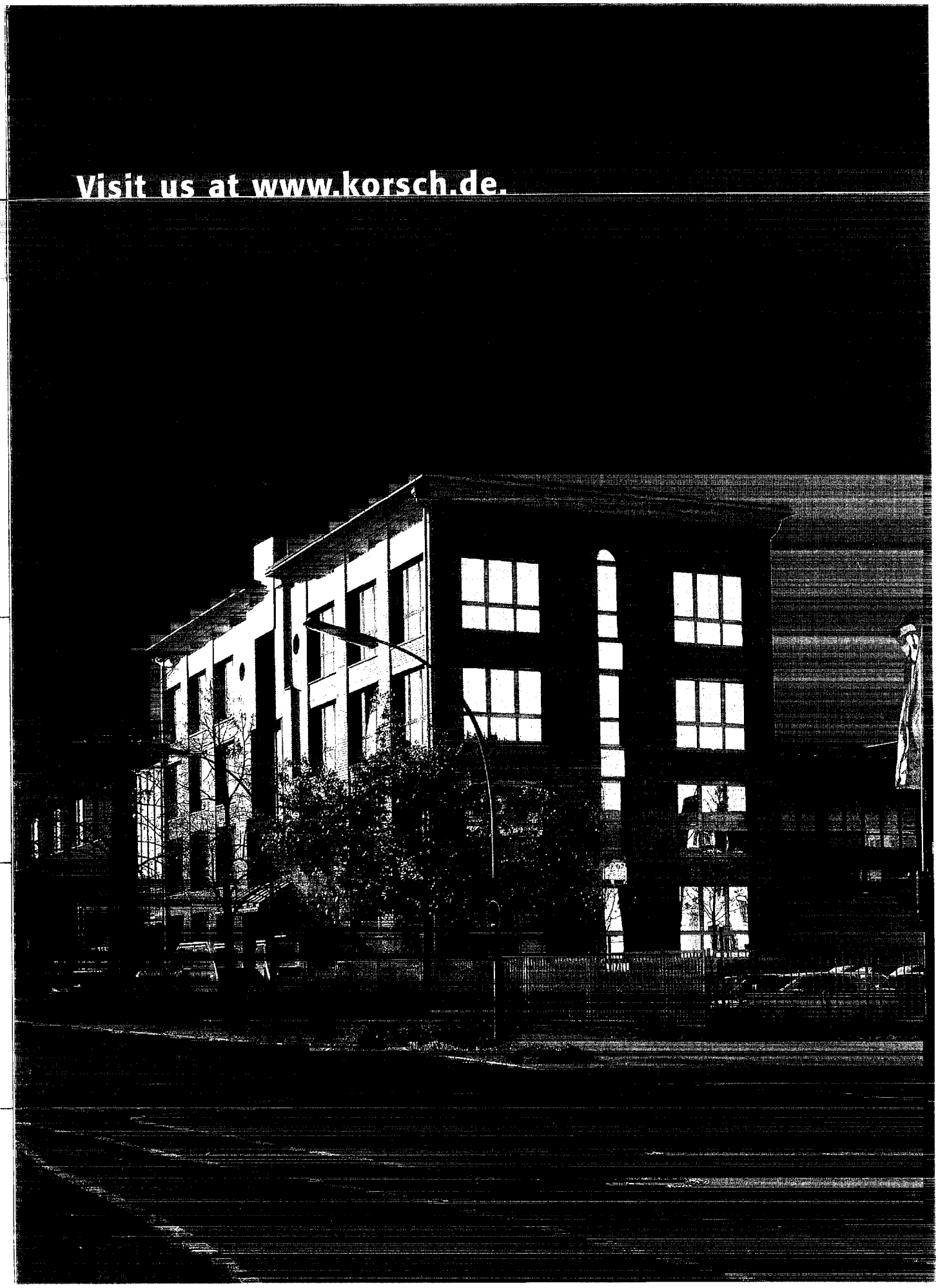
Our production facilities now operate constantly at approximately 90 % of capacity. Due to this success, we are expanding our network of international sales and service locations and adding to our production capacity on an ongoing basis.



Sales in million of DM (Total: DM 45 million)

■ Pharmaceutical ■ Chemical ■ Industrial

Export sales in %

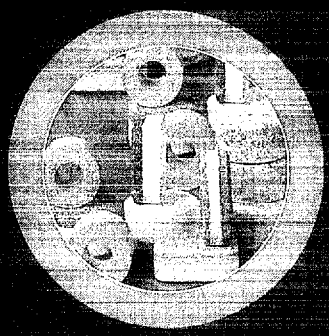


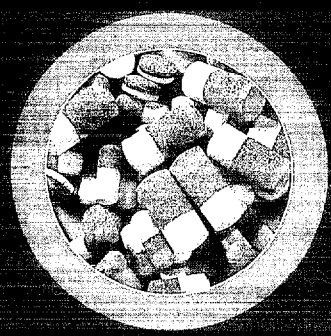
A formula for success

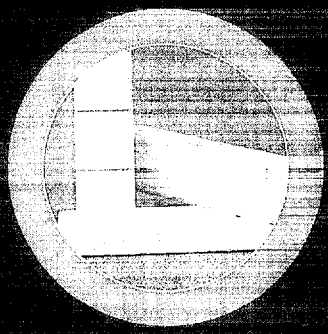
KORSCH can look back upon 80 years of experience in the production of tablet presses at its Berlin location. The result is a line of products that ranges from rotary and eccentric presses to special-purpose machines and testing and measurement equipment. This versatility is clearly unparalleled in the industry.

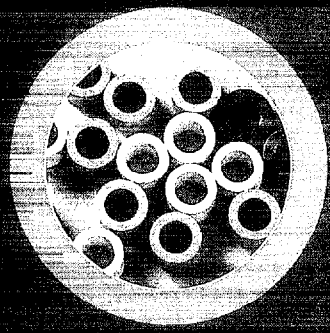
KORSCH specializes in the production of all types of tablet presses and the necessary peripheral equipment. In recent years, the company has been extremely successful and today ranks among the world leaders in its market.

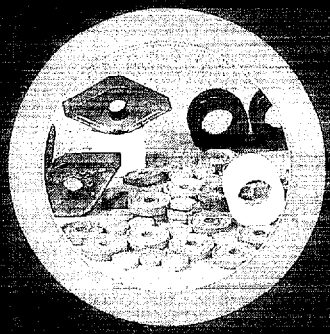
KORSCH sees itself as pioneer when it comes to developing innovative solutions hand in hand with our customers. We are convinced that a working partnership with our customers is a formula for mutual success.

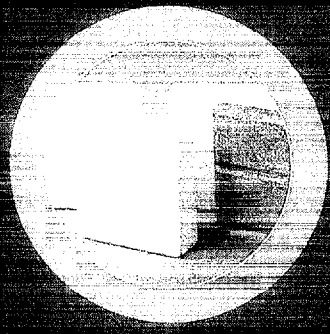








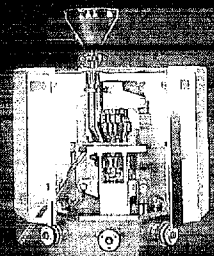


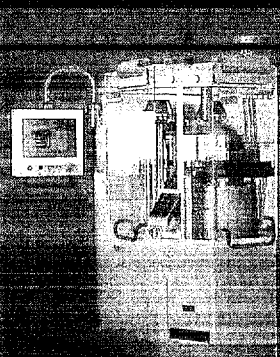


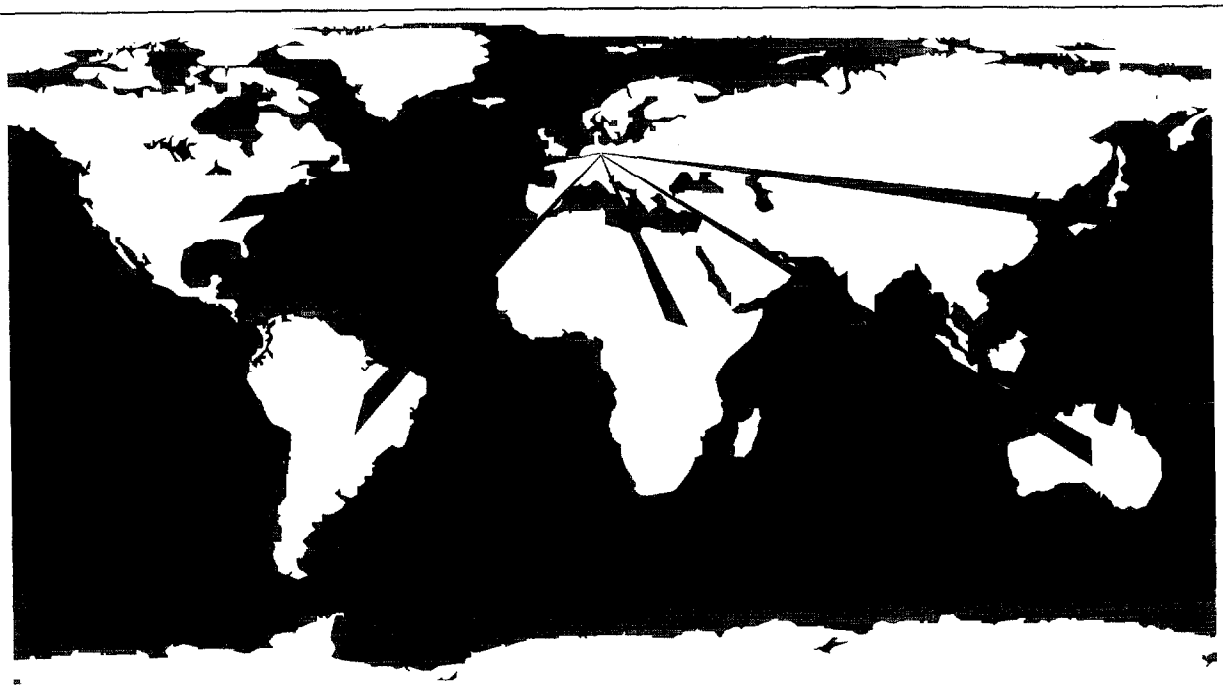
KORSCH
TRP 700/900

KORSCH
XL 100

KORSCH
XL 400







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